

# TEKFAX 110

TV SCHEMATICS COVER OVER 21 MANUFACTURERS • HUNDREDS OF CHASSIS & MODEL NUMBERS • PUBLISHED  
BY ELECTRONIC TECHNICIAN/DEALER MAGAZINE, HARBRACE BUILDING, DULUTH, MINNESOTA 55802



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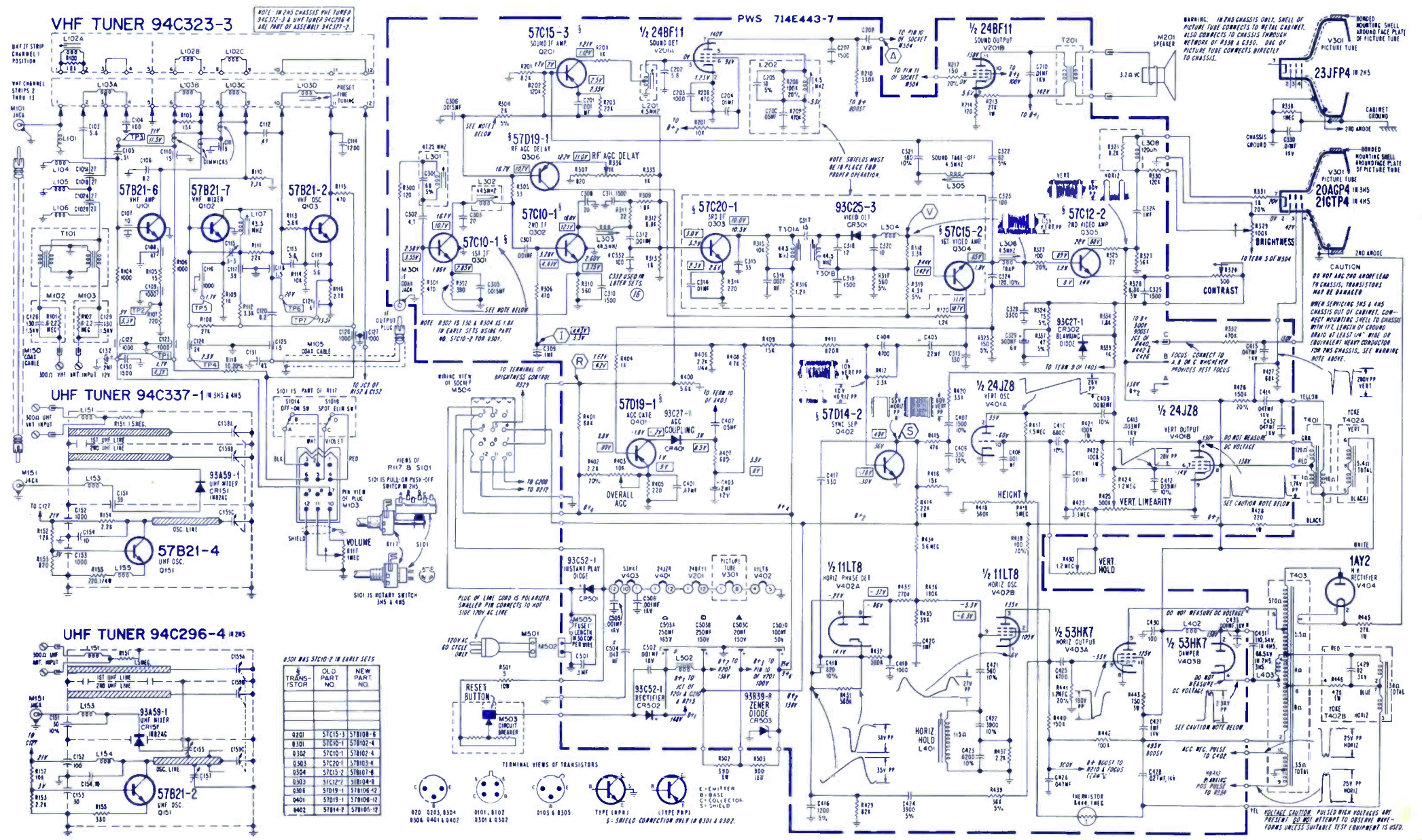
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*Harbrace Building*  
*Duluth, Minnesota 55802*

**SCHEMATIC NOTES:** CABINET GROUND  
 CHASSIS GROUND. RESISTOR VALUES 1/2 WATT, 10% AND CAPACITOR VALUES IN PICOFARADS UNLESS OTHERWISE INDICATED.  
 RESISTANCE VALUES OF COILS LESS THAN 1 Ω IS NOT SHOWN. HZ INDICATES GIGAS PER SECOND.  
 VOLTAGE AND WAVEFORM NOTES:  
 DC VOLTAGES TAKEN WITH VTM WITH RESPECT TO CHASSIS GROUND. TAKEN FROM 120V AC LINE. WAVEFORMS AND P-P VOLTAGES MAY VARY, DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHERE TWO DC VOLTAGES ARE INDICATED, READING TAKEN WITH TV SIGNAL IS SHOWN IN BLOCK, READING TAKEN WITH NO SIGNAL IS SHOWN W/OUT BLOCK.  
 OFF-SIGNAL VOLTAGES TAKEN ON UNUSED VHF CHANNEL WITH ANT TERMINALS SHORTED. VOLUME CONTROL AT MIN. BRIGHTNESS AND CONTRAST CONTROLS AT MAX. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL, PRODUCING 4 TO 5 VOLTS AGC AT TEST POINT R. CONTRAST, BRIGHTNESS CONTROLS SET FOR NORMAL PICTURE.  
**TRANSISTOR CAUTION:**  
 TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND, DO NOT TURN SET ON WITH TRANSISTORS, TUBES OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT. USE VTM ON R X 100 RANGE OR HIGHER. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS.

RUN CHANGES

- 15 Start of production.
- 16 C332 added across R313 for preventing possibility of picture cut-off, due to parasitic oscillation resulting from component variation.

**AGC CAUTION:**  
 DO NOT DISTURB FACTORY SETTING OF AGC CONTROL. IF AGC ADJUSTMENT IS REQUIRED, REFER TO SERVICE NOTES. IF NECESSARY TO DISTURB AGC ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.  
 \* ALL WAVEFORMS TAKEN WITH A WIDE-BAND OSCILLOSCOPE. SOME DEGRADATION WILL BE NOTICED IN HORIZ WAVEFORMS WHEN USING EQUIPMENT WITH NARROW BANDPASS.  
 † COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM  
 § DIFFERENT PART NUMBER IS USED, SEE TRANSISTOR TABLE ABOVE.



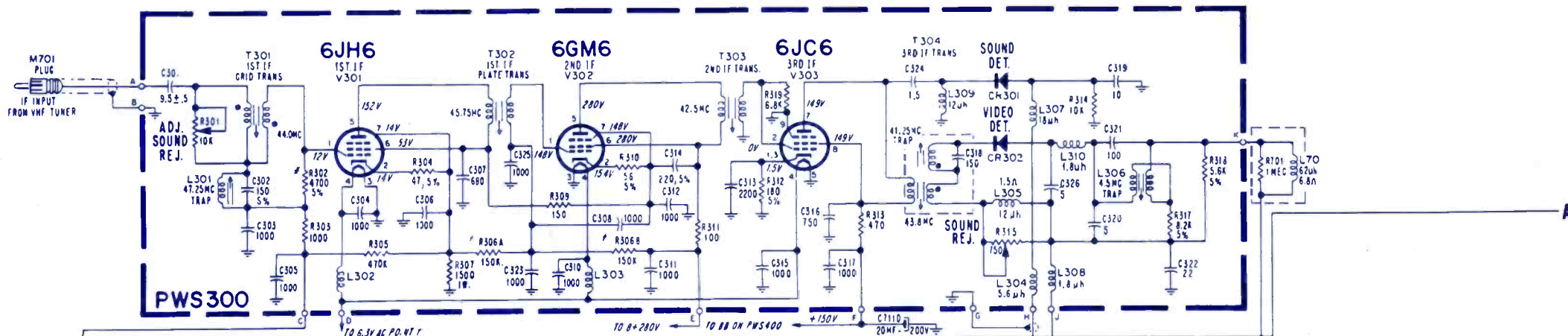
VOLTAGE CAUTION: PULSED HIGH VOLTAGES ARE PRESENT. DO NOT ATTEMPT TO OBSERVE WAVEFORMS UNLESS SUITABLE TEST EQUIPMENT IS USED.



# ADMIRAL

Color TV  
Chassis K15

ELECTRONIC TECHNICIAN / DEALER **TEKFAX**



RUN CHANGES.

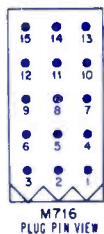
44 This schematic applies only to run 44 sets.  
For run 43 sets see separate schematic.

### SCHEMATIC NOTES:

• CHASSIS GROUND  
# PART NOT MOUNTED ON PRECISION WIRED SYSTEM  
RESISTOR VALUES 1/2 WATT, 10% CAPACITOR VALUES IN PICOFARADS UNLESS OTHERWISE INDICATED.  
SEE SEPARATE SCHEMATIC FOR VHF-UHF TUNERS AND CONTROL CIRCUITRY.  
RESISTANCE VALUES OF COILS LESS THAN 10 NOT SHOWN.

VOLTAGES MEASURED WITH VTVM AT 120 VOLTS AC LINE. NO SIGNAL ON UNUSED UHF CHANNEL.  
ALL CONTROLS IN NORMAL OPERATING POSITION  
\* THIS POINT IS LOCATED UNDER THE SHIELD CAN OF L403

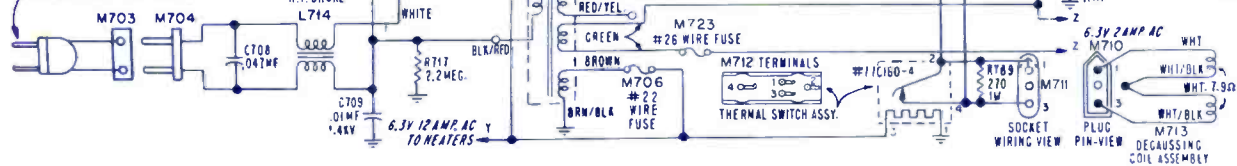
M702 CONNECTS TO #254 ON TUNER CLUSTER SCHEMATIC.



CONNECTIONS TO M716 SHOWN ON THIS SCHEMATIC. M716 CONNECTS TO M715 SHOWN ON TUNER CLUSTER SCHEMATIC.

— INDICATES SOCKET TERMINAL.  
— INDICATES PLUG TERMINAL.

120V 60 CYCLES 300 WATTS



M702 SOCKET WIRING VIEW

VIOLET

WHITE

BLK/RED

6.3V 12AMP AC TO HEATERS

BRN/BLK

M706 #22 WIRE FUSE

M712 TERMINALS

SOCKET WIRING VIEW

PLUG PIN-VIEW

M710

PLUG PIN-VIEW

M711

SOCKET WIRING VIEW

M713 DEGAUSSING COIL ASSEMBLY

M714

DEFLECTION YOKE ASSEMBLY

M722 PLUG

M723 #26 WIRE FUSE

M724

DEFLECTION YOKE ASSEMBLY

M725

DEFLECTION YOKE ASSEMBLY

M726

DEFLECTION YOKE ASSEMBLY

M727

DEFLECTION YOKE ASSEMBLY

M728

DEFLECTION YOKE ASSEMBLY

M729

DEFLECTION YOKE ASSEMBLY

M730

DEFLECTION YOKE ASSEMBLY

M731

DEFLECTION YOKE ASSEMBLY

M732

DEFLECTION YOKE ASSEMBLY

M733

DEFLECTION YOKE ASSEMBLY

M734

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M737

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M739

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M740

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M834

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M835

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M836

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M837

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M838

DEFLECTION YOKE ASSEMBLY

M839

DEFLECTION YOKE ASSEMBLY

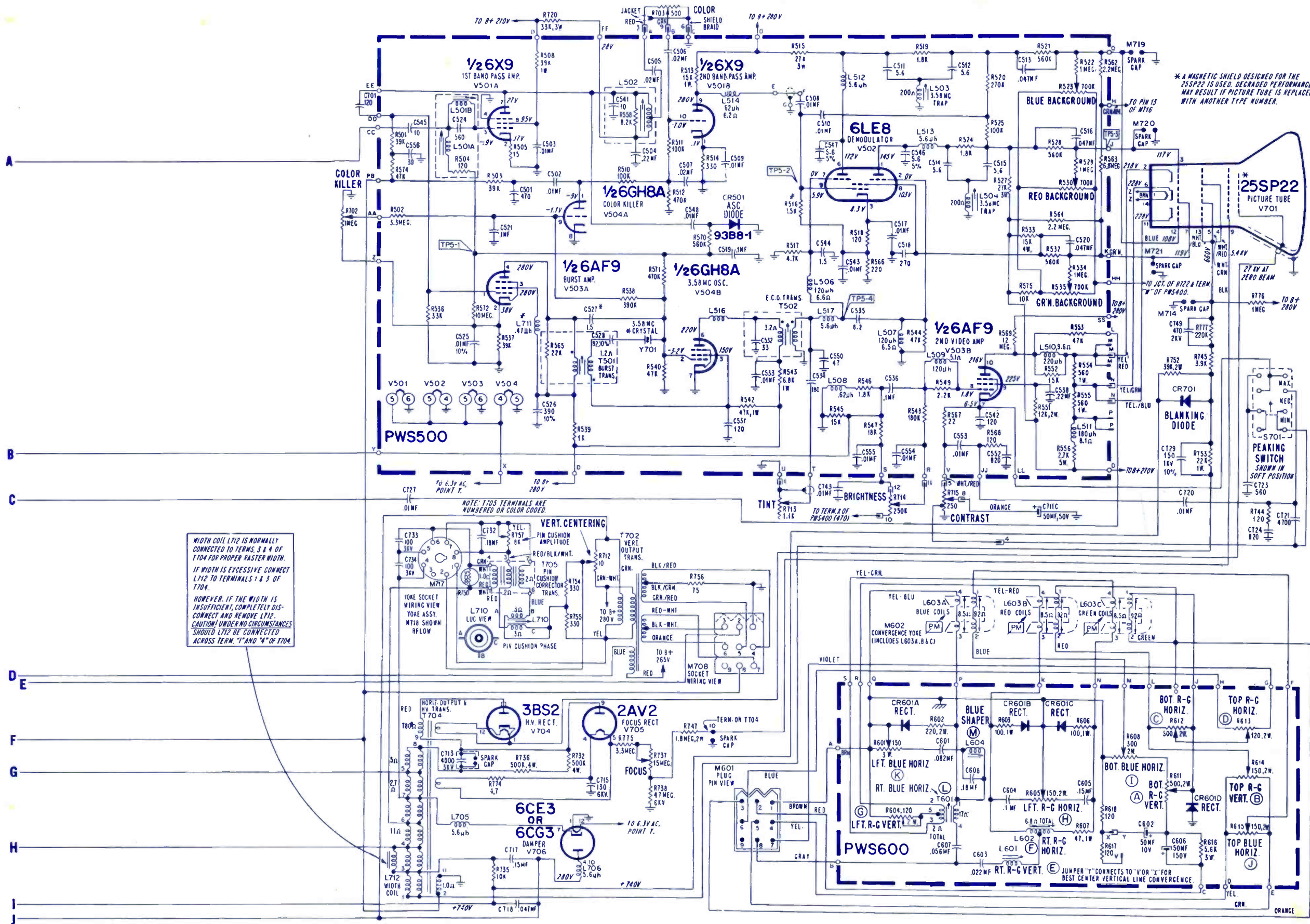
M840

DEFLECTION YOKE ASSEMBLY

M841

DEFLECTION YOKE ASSEMBLY





WIDTH COIL L712 IS NORMALLY CONNECTED TO TERMS 3 & 4 OF T704 FOR PROPER RASTER WIDTH. IF WIDTH IS EXCESSIVE CONNECT L712 TO TERMINALS 1 & 3 OF T704. HOWEVER, IF THE WIDTH IS INSUFFICIENT, COMPLETELY DISCONNECT AND REMOVE L712. CAUTION! UNDER NO CIRCUMSTANCES SHOULD L712 BE CONNECTED ACROSS TERM. "1" AND "4" OF T704.

NOTE: T705 TERMINALS ARE NUMBERED OR COLOR CODED.

JUMPER "T" CONNECTS TO "V" OR "X" FOR BEST CENTER VERTICAL LINE CONVERGENCE.















OFF-SIGNAL VOLTAGES TAKEN ON UNUSED VHF CHANNEL WITH ANT. TERMINALS SHORTED. VOLUME CONTROL AT MIN. BRIGHTNESS AND CONTRAST CONTROLS AT MAX. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE-FREE SIGNAL PRODUCING 4 TO 5 VOLTS ACC AT TEST POINT R. CONTRAST, BRIGHTNESS CONTROLS SET FOR NORMAL PICTURE.

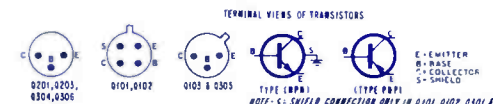
**TRANSISTOR CAUTION:**  
TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND, DO NOT TURN SET ON WITH TRANSISTORS(TUBE) OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORTS BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT. USE VVM ON R X 100 RANGE OR HIGHER. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS.

**ACC CAUTION:**  
DO NOT DISTURB FACTORY SETTING OF ACC CONTROL. IF ACC ADJUSTMENT IS REQUIRED, REFER TO SERVICE NOTES. IF NECESSARY TO DISTURB ACC ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.

- # ALL WAVEFORMS TAKEN WITH A WIDE-BAND OSCILLOSCOPE, SOME DEGRADATION WILL BE NOTICED IN HORIZ. WAVEFORMS WHEN USING EQUIPMENT WITH NARROW BANDPASS.
- \* COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM.
- § DIFFERENT PART NUMBER IS USED, SEE TRANSISTOR TABLE ABOVE.

### RUN CHANGES

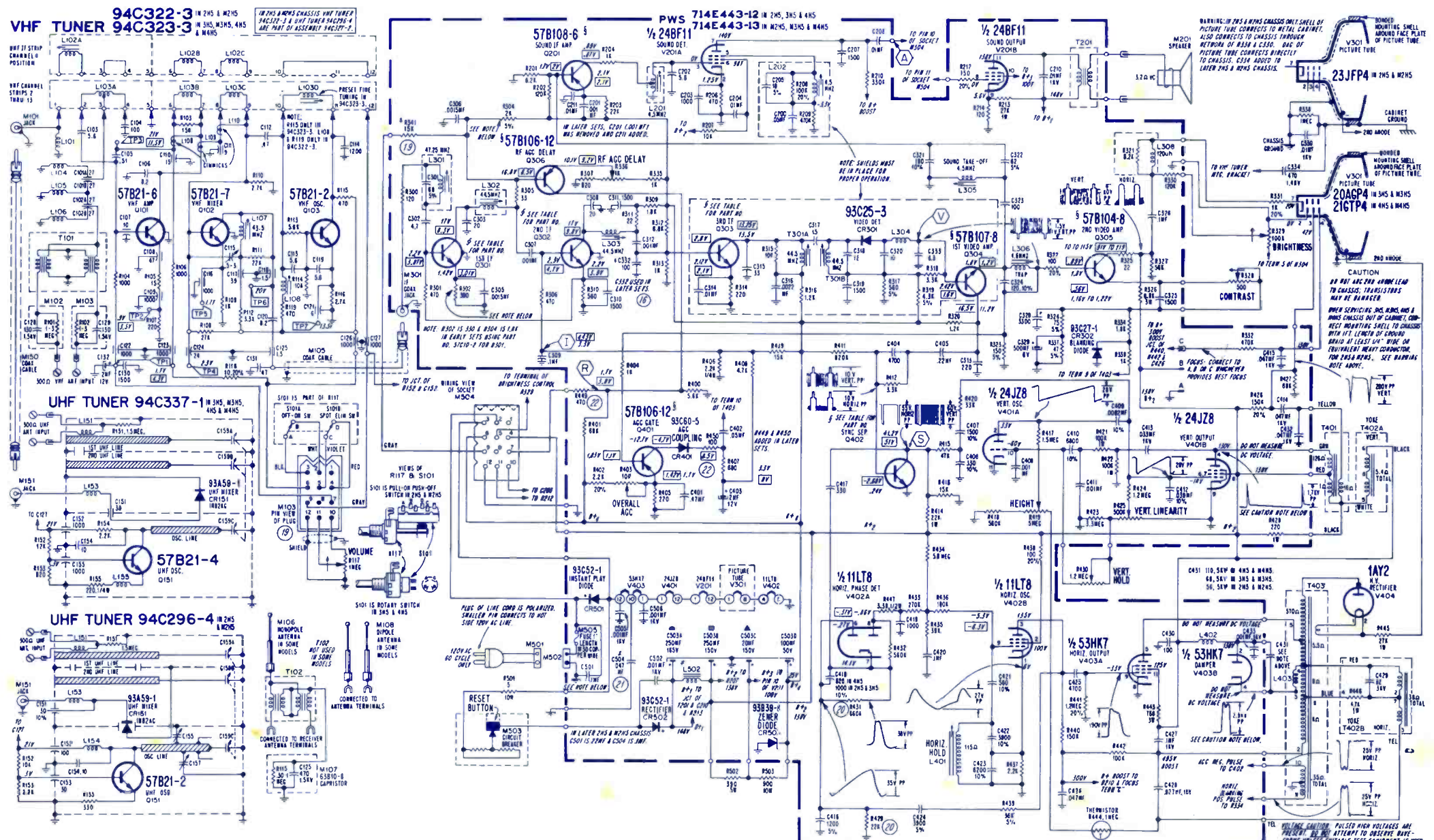
- (15) Start of production.
- (16) C332 added across R313 for preventing possibility of picture cutoff, due to parasitic oscillation resulting from component variation.
- (17) No service significance.
- (18) R341 added for improved UHF reception in medium B strong signal areas, terminals 9 of M103 & M504 used in making this change.
- (19) For improved horizontal sync, R429 changed from 82K to 22K. R447 was added. In 2H5 & 3H5 C418 was changed from 820 to 1000Ω.
- (20) For improved AC power line interference isolation, C504 was changed from .1mf to .047mf.
- (21) R449 & R450 were added for improved transistor reliability.



**SCHEMATIC NOTES:**  
1. CABINET GROUND  
2. CHASSIS GROUND. RESISTOR VALUES 1/2 WATT, 10% AND CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE INDICATED.  
RESISTANCE VALUES OF COILS LESS THAN 10 Ω NOT SHOWN. R<sub>L</sub> INDICATES COILS PER SECOND.  
VOLTAGE AND WAVEFORM NOTES:  
DC VOLTAGES TAKEN WITH VVM WITH RESPECT TO CHASSIS GROUND. TAKEN FROM 100V AC LINE. WAVEFORMS AND P-P VOLTAGES MAY VARY, DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHERE TWO DC VOLTAGES ARE INDICATED, READING TAKEN WITH SIGNAL IS SHOWN IN BLOCK. READING TAKEN WITH NO SIGNAL IS SHOWN WITHOUT BLOCK.

Q301 WAS STC10-2 IN EARLY 2H5, 3H5 & 4H5 CHASSIS

TRANSISTOR	OLD PART NO IN 2H5, 3H5 & 4H5	NEW PART NO IN 2H5, 3H5 & 4H5	PART NO IN M2H5, M3H5 & M4H5
Q201	STC15-3	57B10B-6	57B10B-6
Q301	STC10-1	57B102-4	57B139-4
Q302	STC10-4	57B102-4	57B139-4
Q303	STC20-1	57B103-4	57B138-4
Q304	STC15-2	57B107-8	57B107-8
Q305	STC12-2	57B104-8	57B104-8
Q306	57D19-1	57B106-12	57B106-12
Q401	57D19-1	57B106-12	57B106-12
Q402	57D14-2	57B105-12 OR 57B126-12	57B105-12 OR 57B126-12





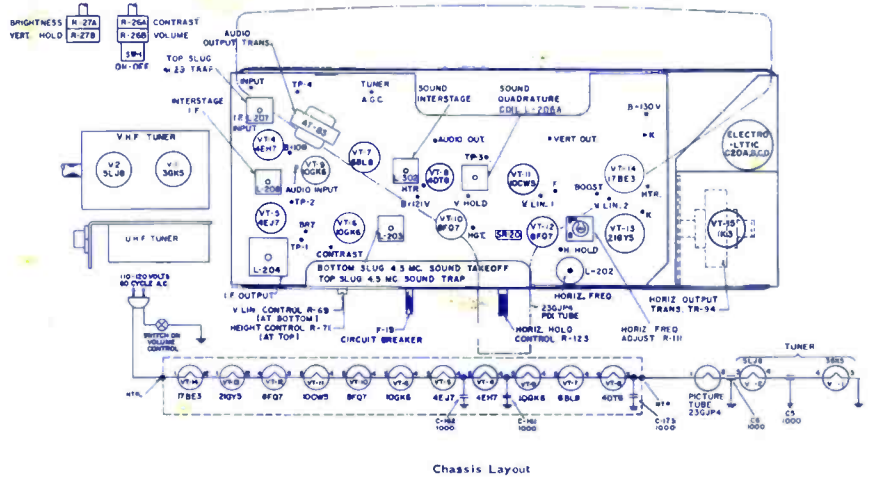




**AIRLINE**  
TV Model  
GHJ-14098A,  
GHJ-14148A,  
GHJ-14158A

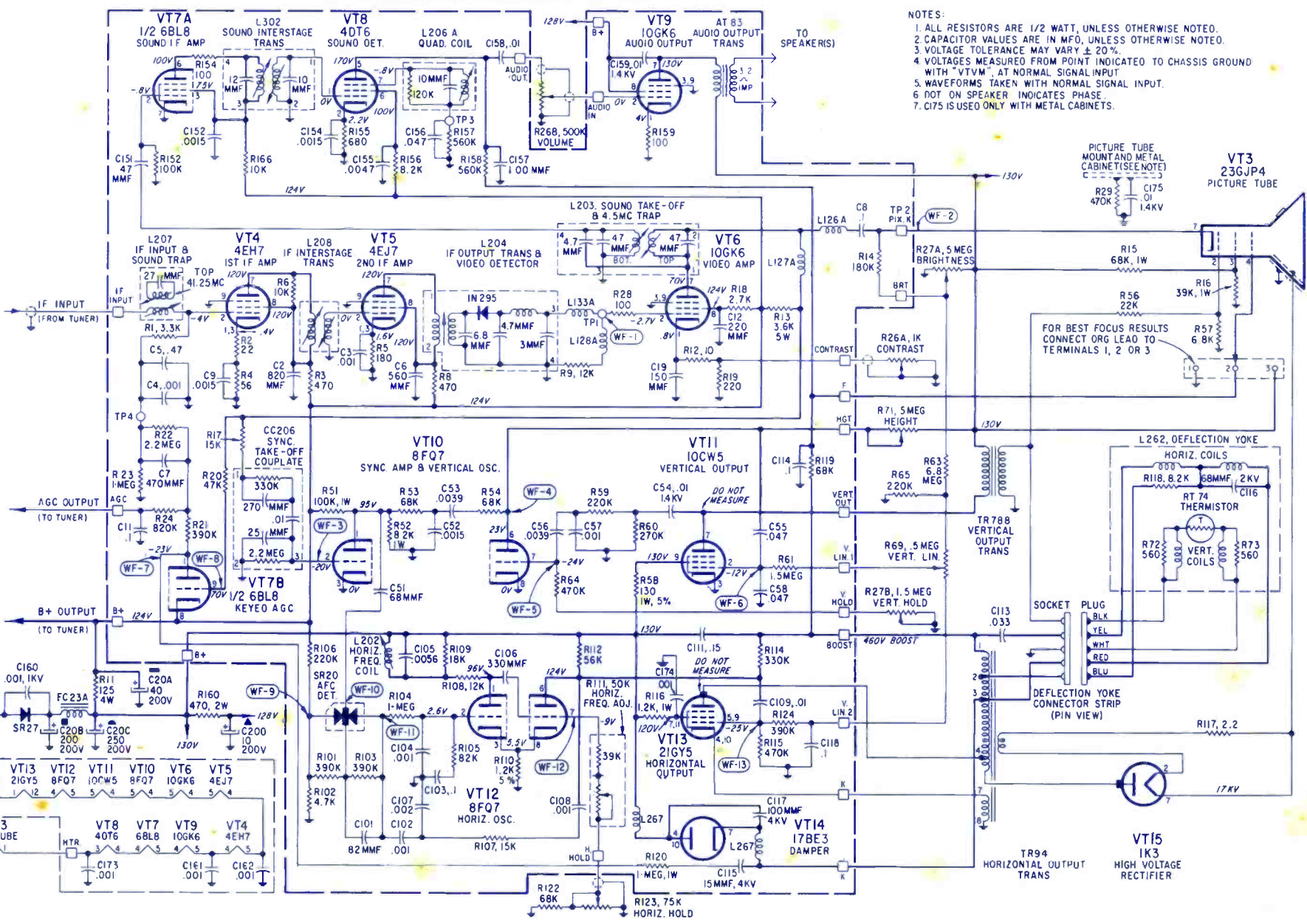
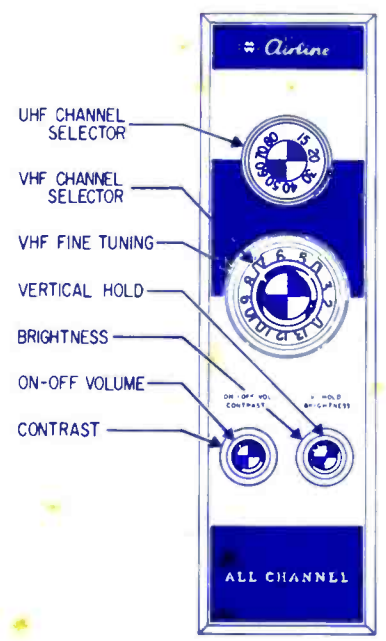
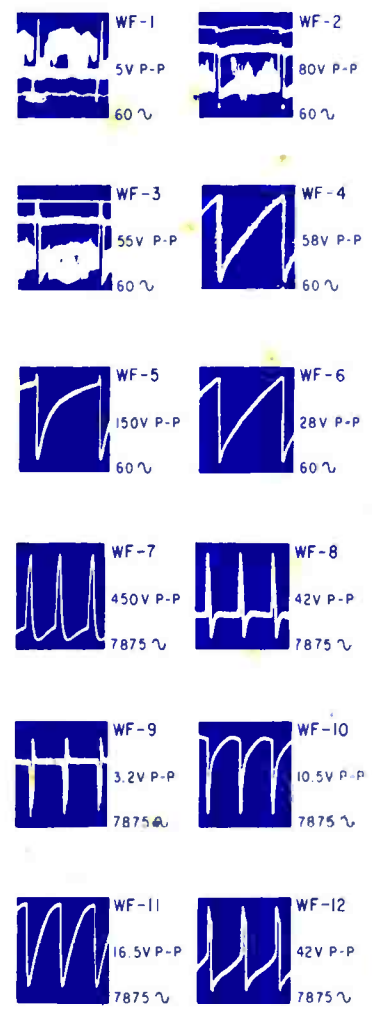
SYMBOL	DESCRIPTION	AIRLINE MODEL PART NO.
<b>CAPACITORS</b>		
C20A	40µf, 200v	034-018800
C20B	200µf, 200v	045-007200
C20C	250µf, 200v	825-150016
C20D	10µf, 200v	035-044400
C106	330pf, 500v, 5% mico	045-007200
C115	15pf, 4kv, 10% cer disc	825-150016
C117	100pf, 4kv, 10% cer disc	035-044400
<b>RESISTORS</b>		
R11	125Ω, 4w, 10%	054-059500
R13	3.6k 5w, 10% WW	053-362510
R164	4.5Ω 10w 10% WW	025-120002
RT74	6.112 20% thermistor @ 37.8°C (part of deflection yoke)	025-120002
<b>CONTROLS</b>		
R26A	1K, contrast	055-051600
R26B	500K, on/off/vol	055-051600
R27A	5M, bright	055-051700
R27B	1.5M, vert hold	055-051700
R69	500K, vert lin	055-035000
R71	5M, height	055-035100
R111	500K, horiz freq adjust	055-041700
R123	75K, horiz hold	055-032000
<b>SEMICONDUCTORS</b>		
SR20	AFC det, diode selenium	003-002000
SR27	500ma 1kv PIV rectifier silicon	004-002700
<b>FORMERS &amp; COILS</b>		
AT83	audio output xfomer	031-008301
FC23A	filter choke	032-002301
L126A	video peaking coil	111-012600
L127A	video peaking coil	111-012700
L128A	peaking coil	111-012800
L133A	peaking coil	111-013300
L202	horiz freq coil	110-020200
L203	sound take-off & 4.5MHz trap xformers	109-020300
L204	IF output & video det. xfomer	109-020400
L206A	sound quad. coil	109-020601
L207	IF input, sound trap, coil	109-020700
L208	IF interstage xfomer	109-020800
L262	deflection yoke w/retainer	027-026200
L267	choke (2 used) coil	111-026700

L302	sound interstage transformer	109-030200
TR78B	vert output, xfomer	033-007802
IR94	horiz output, xfomer	033-009400
<b>PACKAGED CIRCUITS</b>		
CC206	couplate, sync take-off	134-020600
<b>MISCELLANEOUS</b>		
F19	1.75a circuit breaker	099-001900
	VHF tuner	006-017300
	UHF tuner	006-017201



Chassis Layout

Balloons WF-1, WF-2 etc. shown on schematic indicate points of observation of the waveforms.



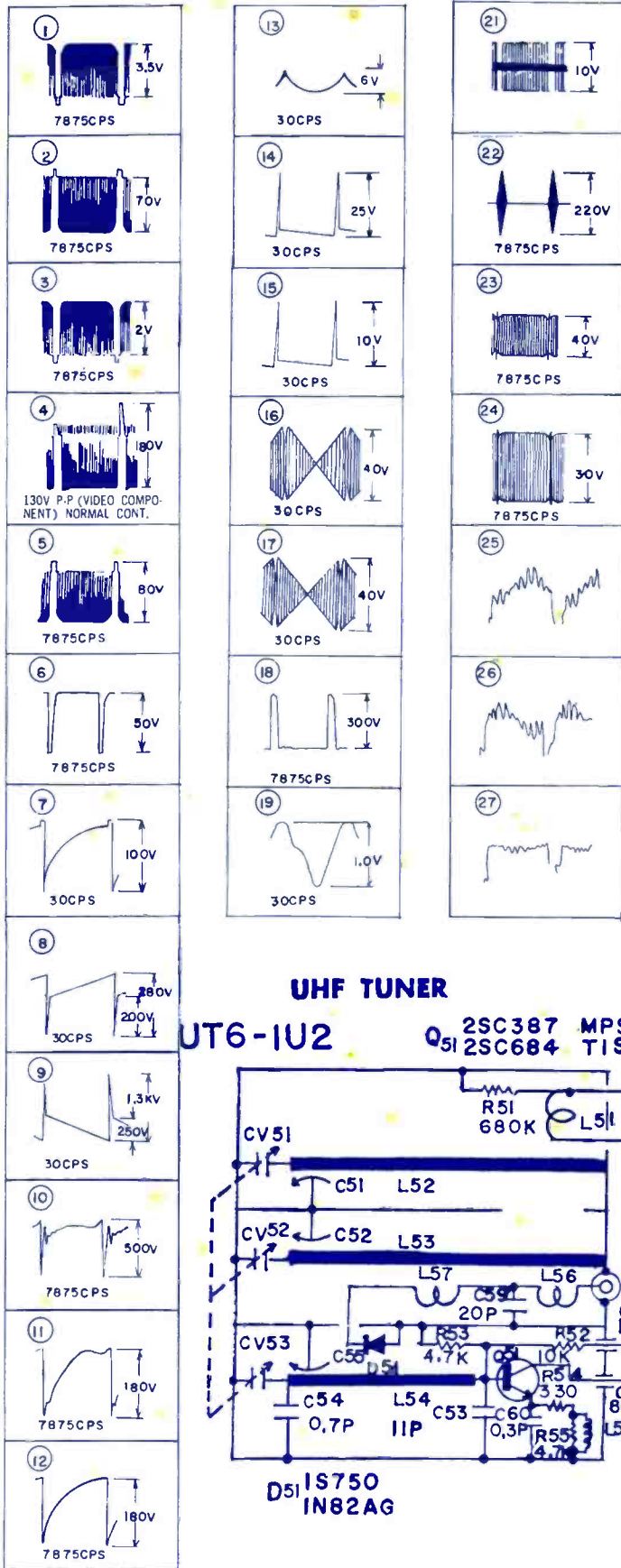
- NOTES:
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.
  2. CAPACITOR VALUES ARE IN MFD, UNLESS OTHERWISE NOTED.
  3. VOLTAGE TOLERANCE MAY VARY ± 20%.
  4. VOLTAGES MEASURED FROM POINT INDICATED TO CHASSIS GROUND WITH "VTVM" AT NORMAL SIGNAL INPUT.
  5. WAVEFORMS TAKEN WITH NORMAL SIGNAL INPUT.
  6. DOT ON SPEAKER INDICATES PHASE.
  7. C175 IS USED ONLY WITH METAL CABINETS.



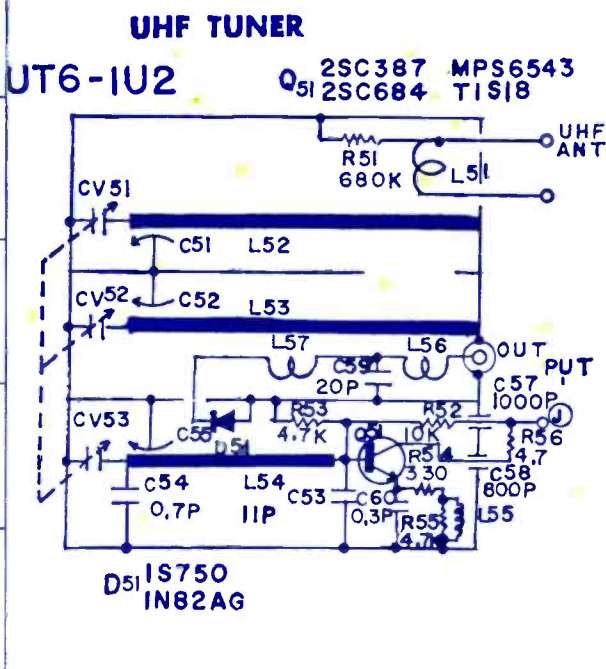
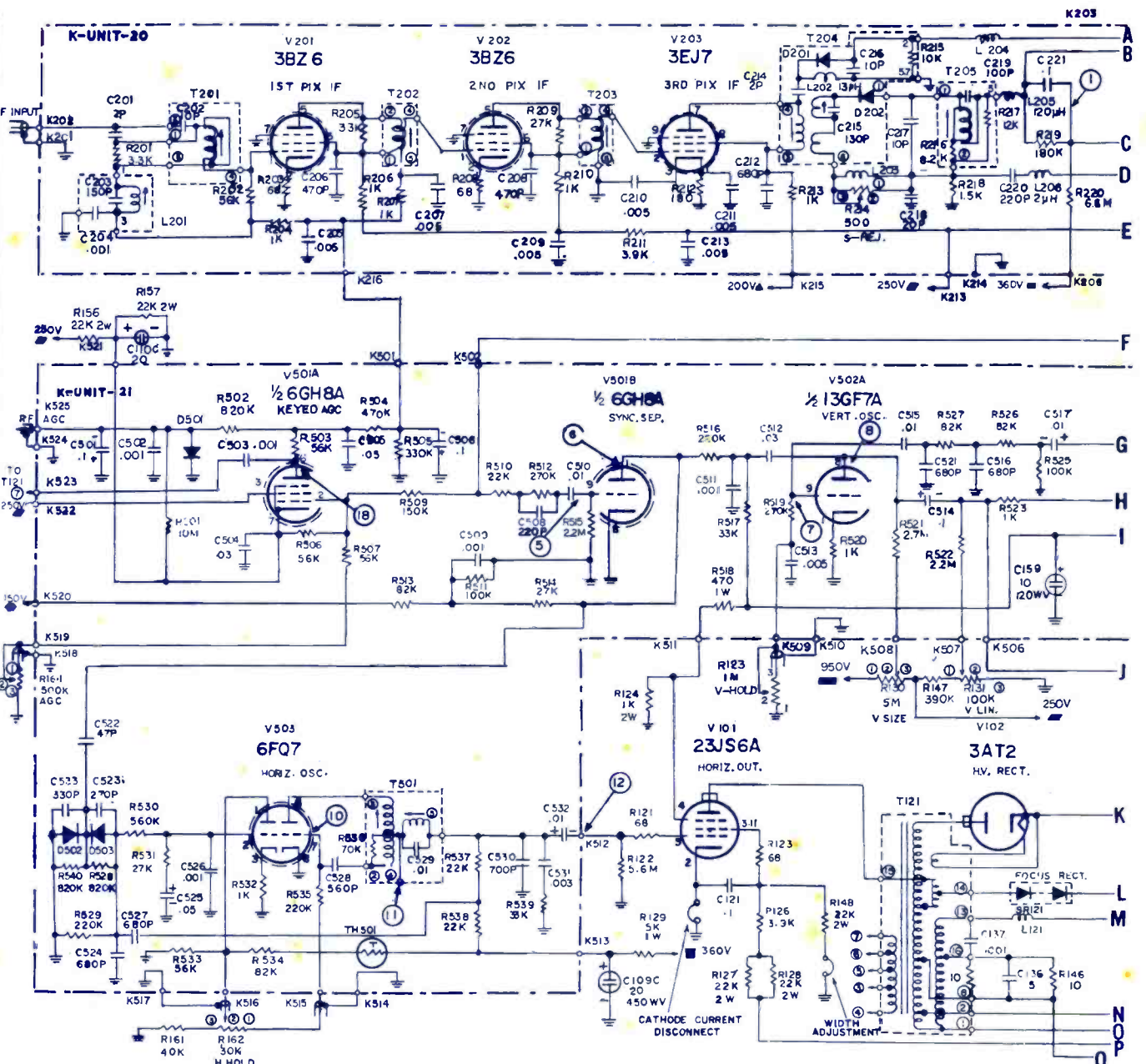
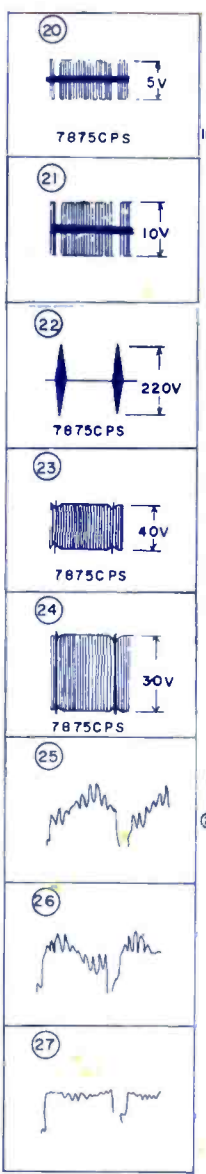
**AIRLINE**  
Color TV Models  
GEN-12078A, 448A,  
GEN-17148A, 58A

**ELECTRONIC TECHNICIAN / DEALER**  
**TEKFAK**

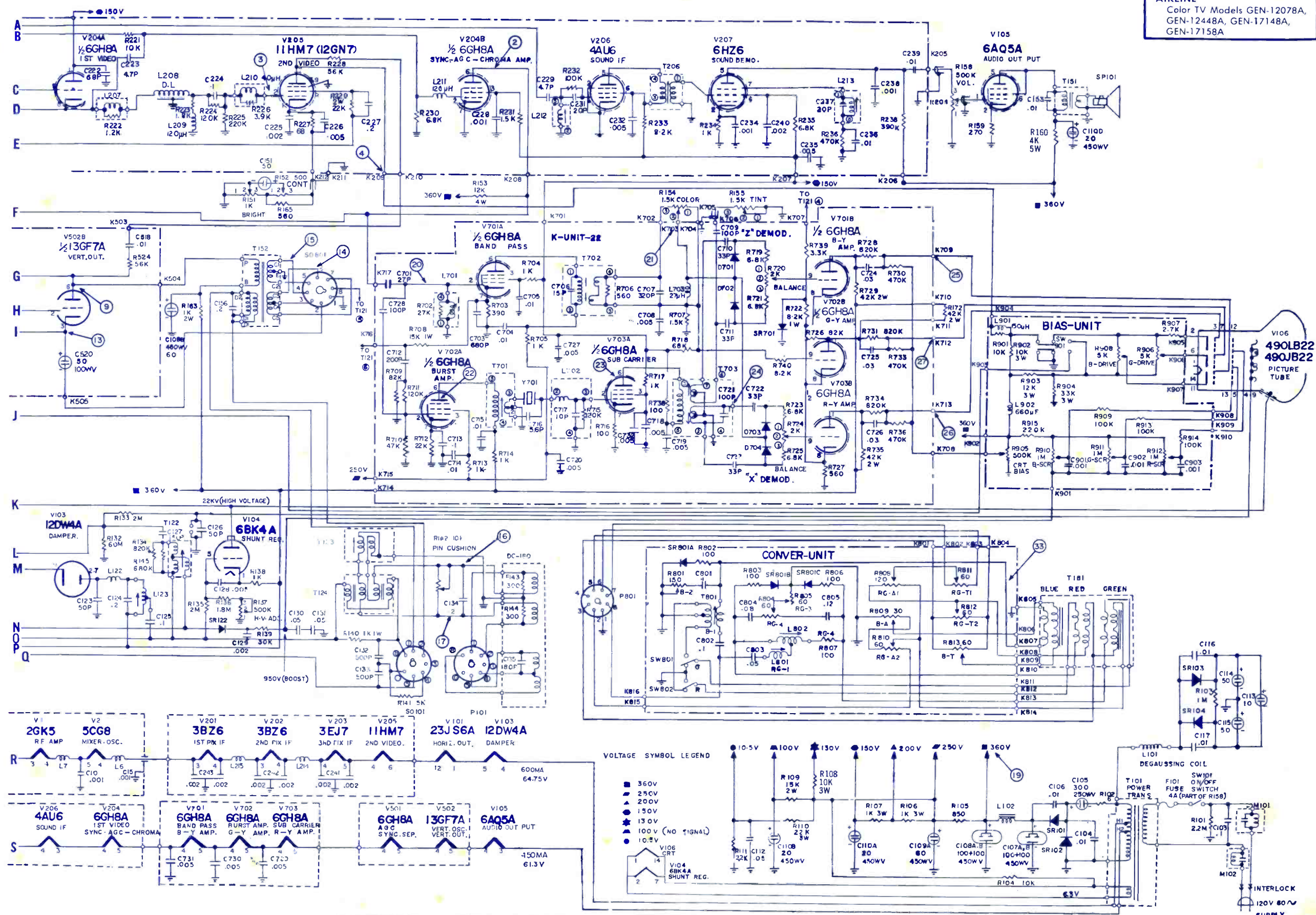
**WAVEFORM DIAGRAMS**



SYMBOL	DESCRIPTION	AIRLINE PART NO.
C107A, C107B		
C108A, C108B	100µf/100µf @450v elect	TV32131
C109A, C109B, C109C	60µf/60µf/20µf @450v elect	TV32135
C110A, C110B		
C110C, C111D	20µf/20µf/20µf/20µf @450v elect	TV32114
C241, C242, C243	.002µf 500v duol discop	TV3484
C528	560pf 750v 10% film mica	TV3195
C530	700pf 500v 5% tubular mica	TV3196
C531	.003µf 400v 10% tubular oil	TV33261
R102	68 30w 10% resin	TV23100
R105	850Ω 20w 10% resin	TV23114
R122	5.6M 5w 10% carbon	CV1556
R132	60M 5000v 10% special	TV2351
R153	12K 4w 10% carbon	TV2338
R160	4K 5w 10% carbon	TV23118
R211	3.9K 4w 10% carbon	TV23120
R123	1M pot. vert hold (8V-172)	TV2575
R130	5M pot. vert size (9V-103)	TV25203
R131	100K pot. vert lin (9V-104)	TV25204
R137	500K pot. HV adjust (8V-069)	TV25170
R142	10K pot. pincushion (8V-098)	TV25198
R151	1K pot. bright (9V-101)	TV25201
R152	500Ω pot. contrast (8V-171)	TV25141
R154	1.5K pot. color (8V-055)	TV25141
R154	1.5K pot. color (8V-068)	TV25137
R154	1.5K pot. color (8V-068)	TV25186
R155	1.5K pot. tint (8V-055)	TV25137
R158	500K pot. volume w/on-off	TV25200
R162	30K pot. horiz hold (8V-099)	TV25199
R164	500K pot. AGC (9V-105)	TV25205
R214	500Ω pot. sound reject (8V-095)	TV25195
R720	2K pot. X demodulator balance (8V-096)	TV25196
R724	2K pot. Z demodulator balance (8V-096)	TV25196
R801	150Ω pot. B-2 (8V-034)	TV25134
R804	60Ω pot. RG-4 (8V-032)	TV25132
R808	120Ω pot. RG-A1 (8V-033)	TV25133
R809	30Ω pot. B-A (8V-031)	TV25131
R811	60Ω pot. RG-T1 (8V-032)	TV25132
R905	500K pot. picture tube bias (8V-059)	TV25140
R906	5K pot. green drive (8V-057)	TV25138
R911	1M pot. green screen (8V-058)	TV25139
L101	coil ADC (2TL-915)	TV61351
L102	coil power choke (9T-177)	TV11162
L121, L122	coil snivel (TL-601)	TV61175
L123	coil horiz efficiency (2TL-904)	TV61344
L201	coil 47.25MHz trap (TIF-336)	TV62336
L206	coil peaking (TL-297)	TV61403
L208	coil delay line (2TL-936)	TV61405
L212	coil 1st sound IF (TIF-341)	TV62341
L213	coil quad (TIF-546)	TV62346
L701	coil chroma take-off (2TL-945)	TV61445
L702	coil series resonance (2TL-946)	TV61446
L703	coil chroma peaking (2TL-200)	TV61400
L901	coil video peaking (2TL-205)	TV61407
T101	xformer power (5T-186)	TV11187
T121	xformer horiz output (8FT-625)	TV11185
T122	xformer focus (2TL-908)	TV61348
T124	xformer pincushion (9T-199)	TV11189
T151	xformer audio output (7T-167)	TV11185
T151	xformer audio output (7T-171)	TV11185
T151	GEN-12078A & GEN-12448A	TV11185
T151	GEN-17148A & GEN-17158A	TV11171
T152	xformer vertical output (8T-182)	TV11145
T181	xformer convergence yoke (TL-82)	TV61299
T201	xformer 1st PIX IF (TIF-337)	TV62337
T202	xformer 2nd PIX IF (TIF-338)	TV62338
T203	xformer 3rd PIX IF (TIF-339)	TV62339
T204	xformer video detector assembly (2TL-935)	TV61435
T205	xformer 4.5MHz trap (TIF-340)	TV62340
T206	xformer 2nd sound IF (TIF-342)	TV62342
T501	xformer horiz osc (2TL-942)	TV61442
T701	xformer burst (2TL-947)	TV61447
T702	band pass xformer (2TL-944)	TV61444
T703	phase xformer (2TL-943)	TV61443
T801	control B-1 xformer (2TL-950)	TV61450
M101, M102	filter (2TL-951)	TV61451
SR101, SR102	power rectifier (51-Rect-56)	TV24236
SR121	focus rectifier (Selen-32)	TV24165
SR122	boosted boost rectifier (51-Rect-44)	TV24167
TH501	thermistor	TV24231
V701	crystal 3.58MHz (Crystal-800)	TV24228
F101	fuse 4 amp 125v pigtail (slo-blo)	315004
M1, M2	Copistor (PRC-365)	PT5-HU2W & PT5-SU2W
M1, M2	Copistor (PRC-365)	TV3465
Q51	transistor 25C387 osc	UT6-1U2







**ELECTRICAL SPECIFICATIONS**

ANTENNA INPUT IMPEDANCE	.....300 ohms balanced
CONVERGENCE	.....Magnetic
FOCUS	.....Electrostatic
AUDIO POWER OUTPUT RATING	.....1.0 watts max.

**INTERMEDIATE FREQUENCIES**

Picture I-F Carrier Frequency	.....45.75 Mc.
Sound I-F Carrier Frequency	.....41.25 Mc.
Color Sub-Carrier Frequency	.....42.17 Mc. (Nominal)

**PICTURE SIZE**.....Approx. 171 sq. in.

**POWER INPUT**.....180 volts AC, 60 cycles

**POWER RATING**.....340 watts total

**SPEAKER SIZE**.....2 3/4" x 4 1/4" PM, 1.0 oz. Mag.

**VOICE COIL IMPEDANCE**.....8.0 ohms @ 400 cycles

**SWEEP DEFLCTION**.....Magnetic

**TUNING RANGES**

VHF-Channels 2 thru 13

UHF-Channels 14 thru 83



**AIRLINE**

Color TV Models  
GEN12069A,  
GEN12349A

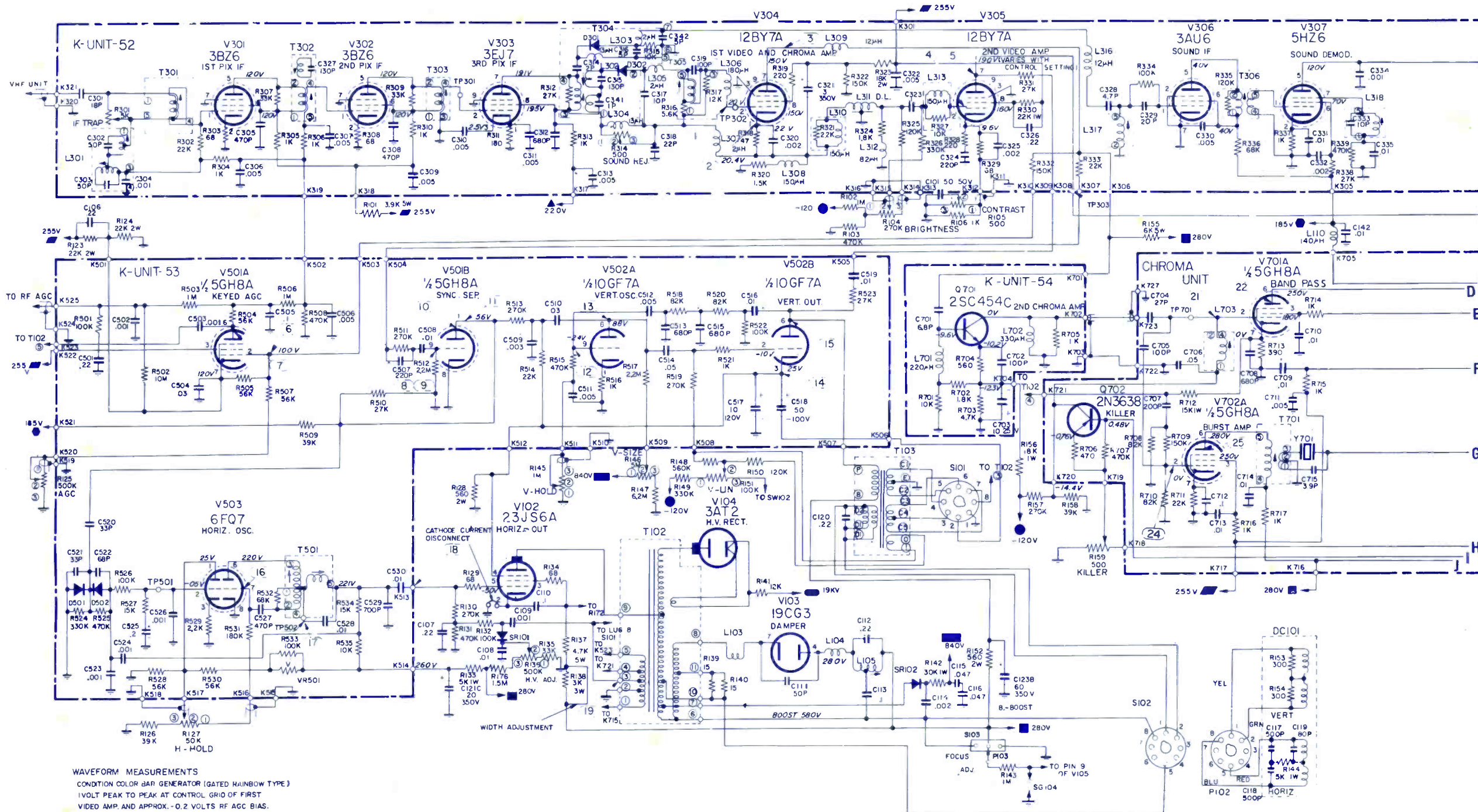
**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

COMPLETE MANUFACTURERS' CIRCUIT DIAGRAMS  
AND TECHNICAL INFORMATION FOR 6 NEW SETS

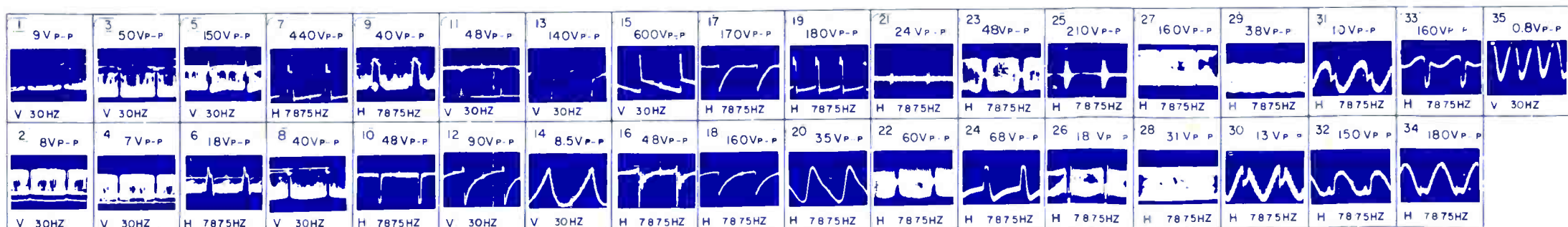
SYMBOL	DESCRIPTION	PART NO.
C111	50pf 5kv 20% discop	TV31101
C121A, B, C, D	20µf/20µf/20µf @350v elect	TV32152
C123A, B	60µf/60µf @350v elect	TV32153
C707	200pf 1kv 10% discop	TV31110
R101	3.9K 5w 10% carbon	TV23124
R122	2.2K 5w 10% carbon	TV23152

R138	3K 3w 10% carbon	TV23154
R155	6K 5w 10% carbon	TV23155
R171	42 20w 10% resin	TV23159
R104	270K pot bright (8V-348)	TV25215
R105	500Ω pot contrast (9V-153)	TV25216
R111	1M pot blue screen (9V-132)	TV25217
R112	5K pot blue drive (9V-131)	TV25218
R114	1M pot green screen (9V-132)	TV25217
R116	1M pot red screen (9V-132)	TV25217

R118	5K pot green/red drive (9V-131)	TV25218
R125	500K pot AGC (9V-130)	TV25220
R127	50K pot horiz hold (8V-173)	TV25221
R136	500K pot HV adjust (8V-069)	TV25170
R145	1M pot vert hold (8V-172)	TV25175
R146	5M pot vert size (9V-128)	TV25222
R151	100K pot vert lin (9V-129)	TV25223
R159	500Ω pot color killer (9V-141)	TV25224



WAVEFORM MEASUREMENTS  
CONDITION COLOR BAR GENERATOR (GATED RAINBOW TYPE)  
1VOLT PEAK TO PEAK AT CONTROL GRID OF FIRST  
VIDEAMP. AND APPROX. -0.2 VOLTS RF AGC BIAS.





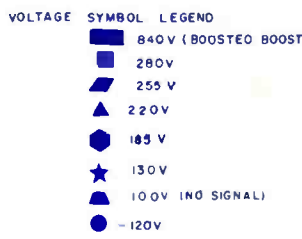
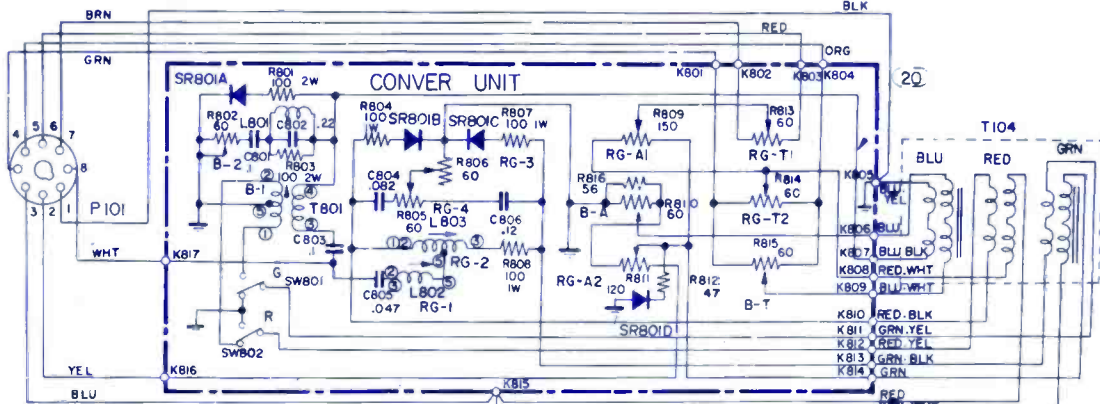
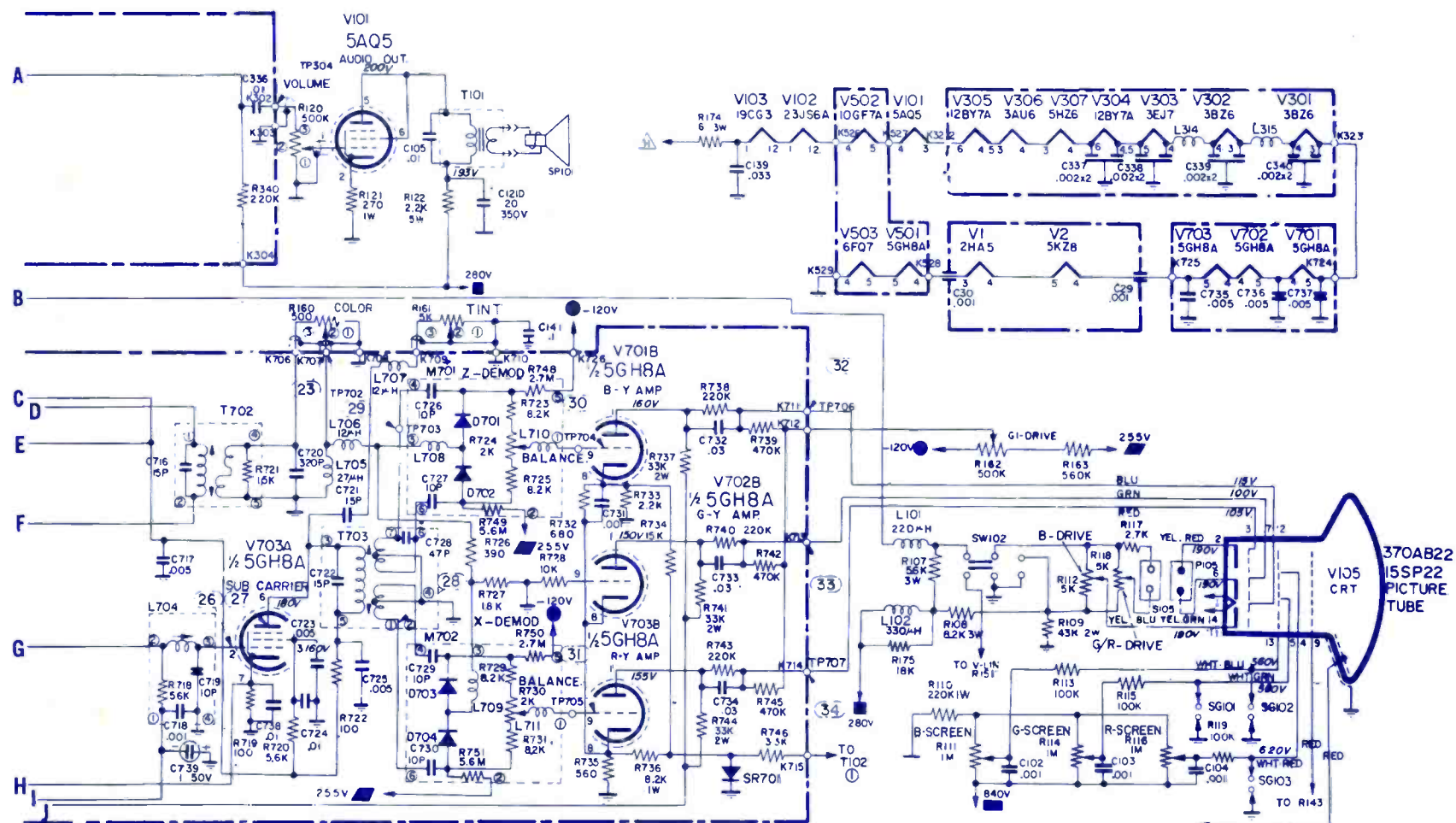
R160 - 500Ω pot color (8V-454) ..... TV25225  
 R161 - 5K tint (9V-134) ..... TV25226  
 L101 - coil video peaking (2TL-234) ..... TV61468  
 L105 - coil horiz efficiency (2TL-904) ..... TV61344  
 L106 - coil power choke (9T-177) ..... TV11162  
 L108, L109 - coil power line filter (2TL-973) ..... TV61455  
 L301 - coil 39.75MHz & 41.25MHz trap (TIF-371) ..... TV61456  
 L311 - coil delay line (2TL-977) ..... TV61461  
 L313 - coil peaking (2TL-235) ..... TV61462

L317 - coil 1st sound IF (TIF-341) ..... TV61467  
 L318 - coil quadrature (TIF-384) ..... TV61472  
 L703 - coil chroma take off (2TL-982) ..... TV61464  
 L705 - coil chroma peaking (2TL-200) ..... TV61400  
 L706, L707 - coil chroma (2TL-230) ..... TV61460  
 L801 - coil blue horiz shape (2TL-937) ..... TV61466  
 T101 - x-former audio output (7T-171) ..... TV11171  
 T102 - x-former horiz output (8FT-644) ..... TV11213

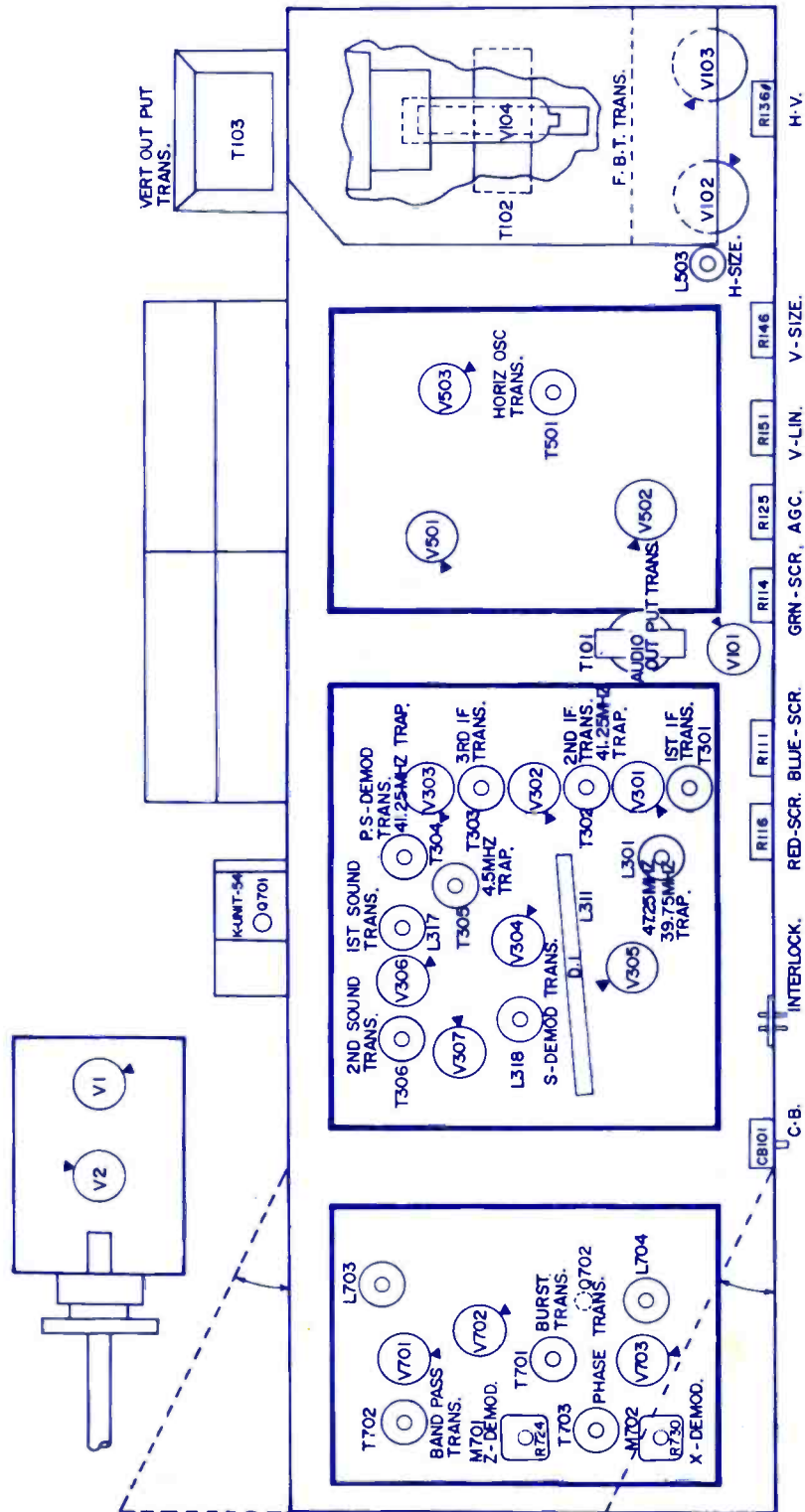
T103 - x-former vert output (8T-182) ..... TV11145  
 T104 - x-former convergence (2TL-971) ..... TV62327  
 T105 - x-former power (5T-194) ..... TV11214  
 T301 - x-former 1st pix IF (TIF-372) ..... TV62329  
 T304 - x-former video selector assembly (2TL-978) ..... TV62328  
 T305 - x-former 4.5MHz trap (TIF-377) ..... TV62332  
 T501 - x-former horiz osc (2TL-980) ..... TV62334  
 T701 - x-former burst (2TL-947) ..... TV61447

T702 - x-former band pass (2TL-965) ..... TV62335  
 T703 - x-former phase (2TL-981) ..... TV62336  
 T801 - x-former B1 (2TL-950) ..... TV62337  
 M701 - Z demodulator assembly (K-unit-48) ..... TV3489  
 M702 - X demodulator assembly (K-unit-48) ..... TV3489  
 O701 - transistor 2N5454C 2nd chroma amp ..... TV24453  
 Q702 - transistor 2N3638 color killer ..... TV24363  
 VR501 - varistor (15-2171) ..... TV24238  
 Y701 - crystal 3.58MHz (crystal-800) ..... TV24228

**AIRLINE**  
 Color TV Models GEN12069A,  
 GEN12349A



DC VOLTAGE MEASUREMENTS ARE AT NO SIGNAL CONDITION.



**CHASSIS LAYOUT**



**AIRLINE**

Color TV Models  
GHJ-17949A, 59A

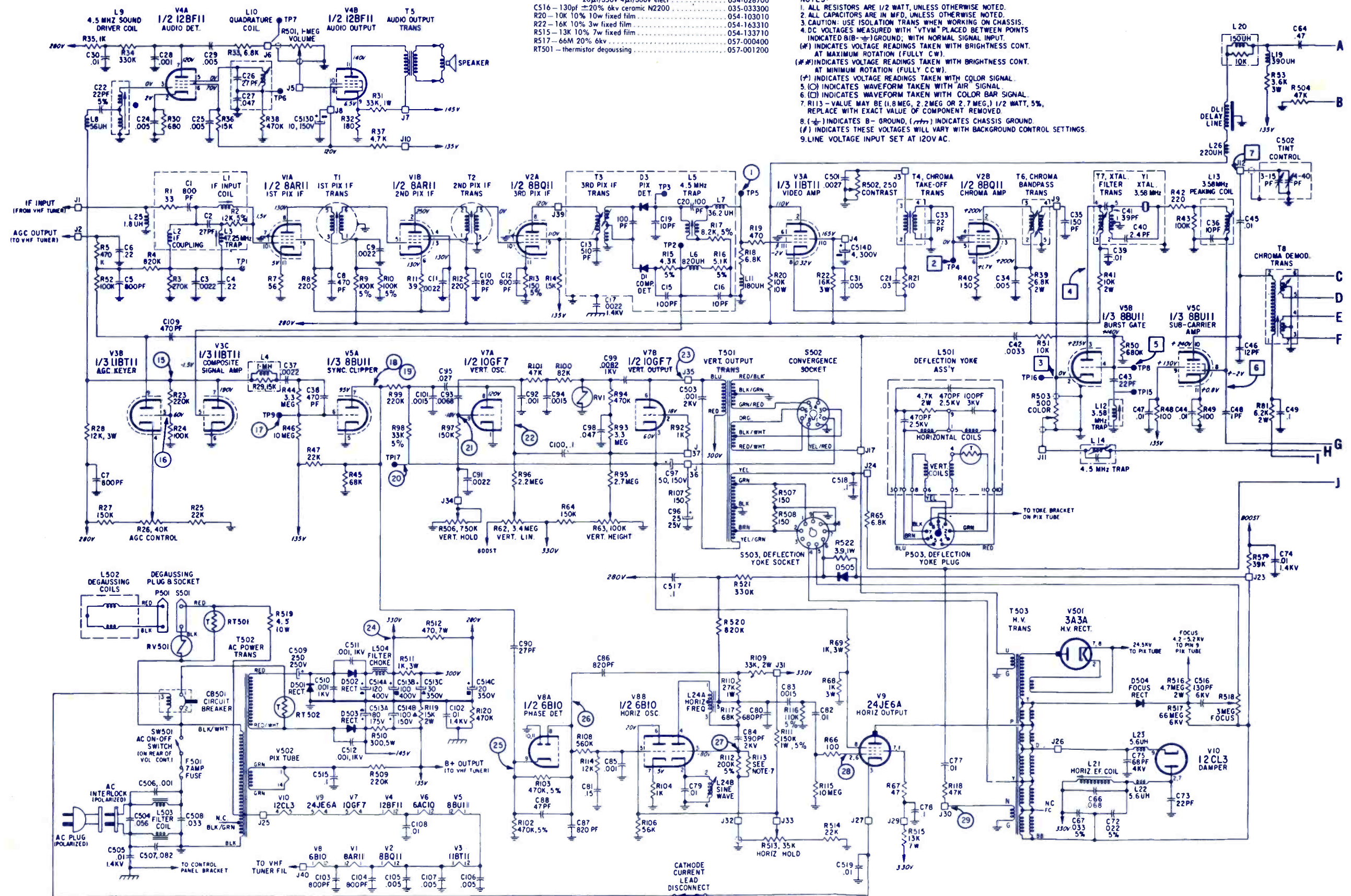
**ELECTRONIC TECHNICIAN / DEALER** *TEKFAX*

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C17	.0022µf +80-20% 1.4kv ceramic U.L.	845-222826
C35	150pf ±5% 500v mica	045-008800
C50	270pf ±5% 500v mica	045-008900
C74	.01µf +80-20% 1.4kv ceramic	817-103896
C75	68pf ±10% 4kv ceramic N1500	886-680017
C80	680pf ±5% 500v mica	045-007300
C503	.001µf ±10% 2kv paper	046-015500
C513A,B,C,D	80µf/175v 100µf/400v	
C514A,B,C,D	30µf/350v 10µf/150v elect	034-028800
	20µf/350v 4µf/300v elect	034-028700
C516	130pf ±20% 6kv ceramic N2200	035-033300
R20	10k 10% 10w fixed film	054-103010
R22	16k 10% 3w fixed film	054-163310
R515	13k 10% 7w fixed film	054-133710
R517	66M 20% 6kv	057-000400
RT501	thermistor degaussing	057-001200

RT502	thermistor	057-001200
RV1	VDR	057-000200
RV501	VDR degaussing	057-001300
R26	control AGC 40K	055-064400
R55	control blue background 500K	055-064400
R56	control green background 500K	055-064400
R59	control red screen 1.5M	055-064300
R60	control green screen 1.5M	055-064300
R61	control blue screen 1.5M	055-064300
R87	control red balance 2K	055-064500

R501	control on off volume 1M	055-065600
C502	control tint	049-005200
R502	control contrast 250Ω	055-065400
R503	control color 500Ω	055-065800
R505	control bright 100K	055-065700
R506	control vert hold 750K	055-047600
R513	control horiz hold 35K	055-047500
R518	control focus 3M	055-065500
R801	control left blue horiz lines 60Ω 3w	056-046800
R804	control left red/green vert lines	056-047300
R808	control bottom blue horiz lines 60Ω 3w	056-046800

**NOTES:**  
 1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.  
 2. ALL CAPACITORS ARE IN MFD, UNLESS OTHERWISE NOTED.  
 3. CAUTION: USE ISOLATION TRANS WHEN WORKING ON CHASSIS.  
 4. DC VOLTAGES MEASURED WITH "VTVM" PLACED BETWEEN POINTS INDICATED B1-B=1 GROUND, WITH NORMAL SIGNAL INPUT.  
 (\*) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT. AT MAXIMUM ROTATION (FULLY CCW).  
 (#) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT. AT MINIMUM ROTATION (FULLY CW).  
 (†) INDICATES VOLTAGE READINGS TAKEN WITH COLOR SIGNAL.  
 5. (O) INDICATES WAVEFORM TAKEN WITH "AIR" SIGNAL.  
 6. (□) INDICATES WAVEFORM TAKEN WITH COLOR BAR SIGNAL.  
 7. R113 - VALUE MAY BE (1.8 MEG, 2.2 MEG OR 2.7 MEG.) 1/2 WATT, 5%. REPLACE WITH EXACT VALUE OF COMPONENT REMOVED.  
 8. (±) INDICATES B - GROUND, (///) INDICATES CHASSIS GROUND.  
 (†) INDICATES THESE VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.  
 9. LINE VOLTAGE INPUT SET AT 120V AC.



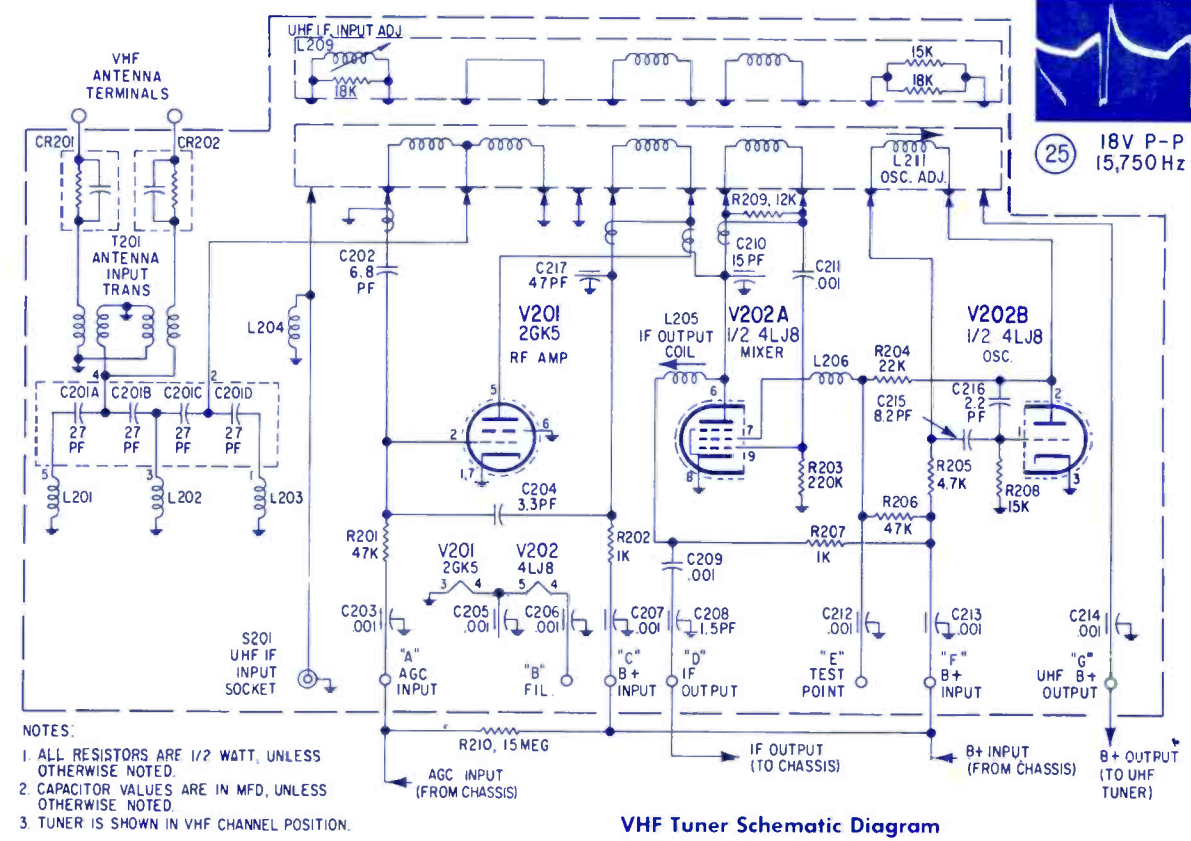
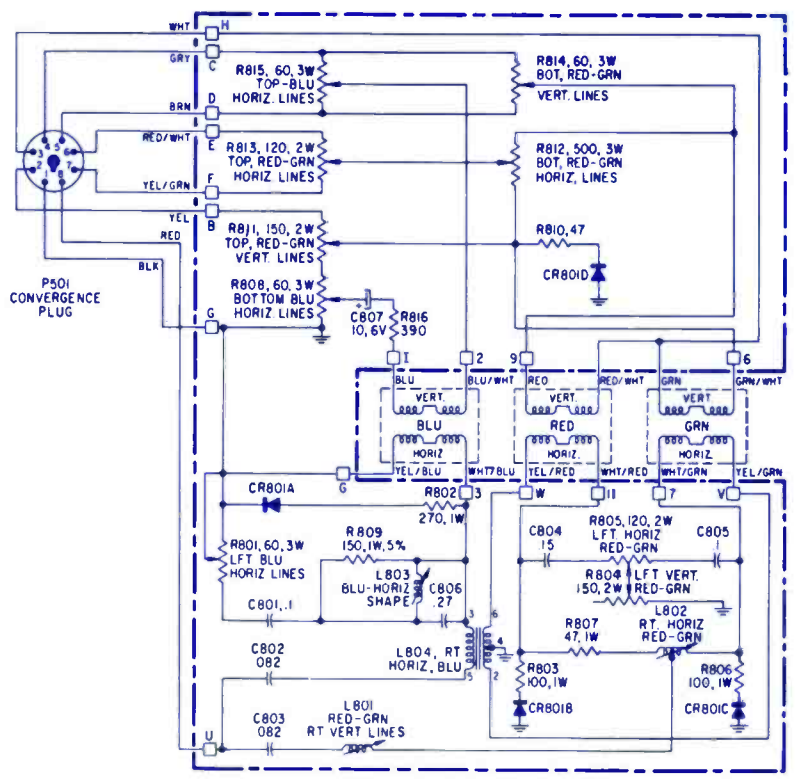
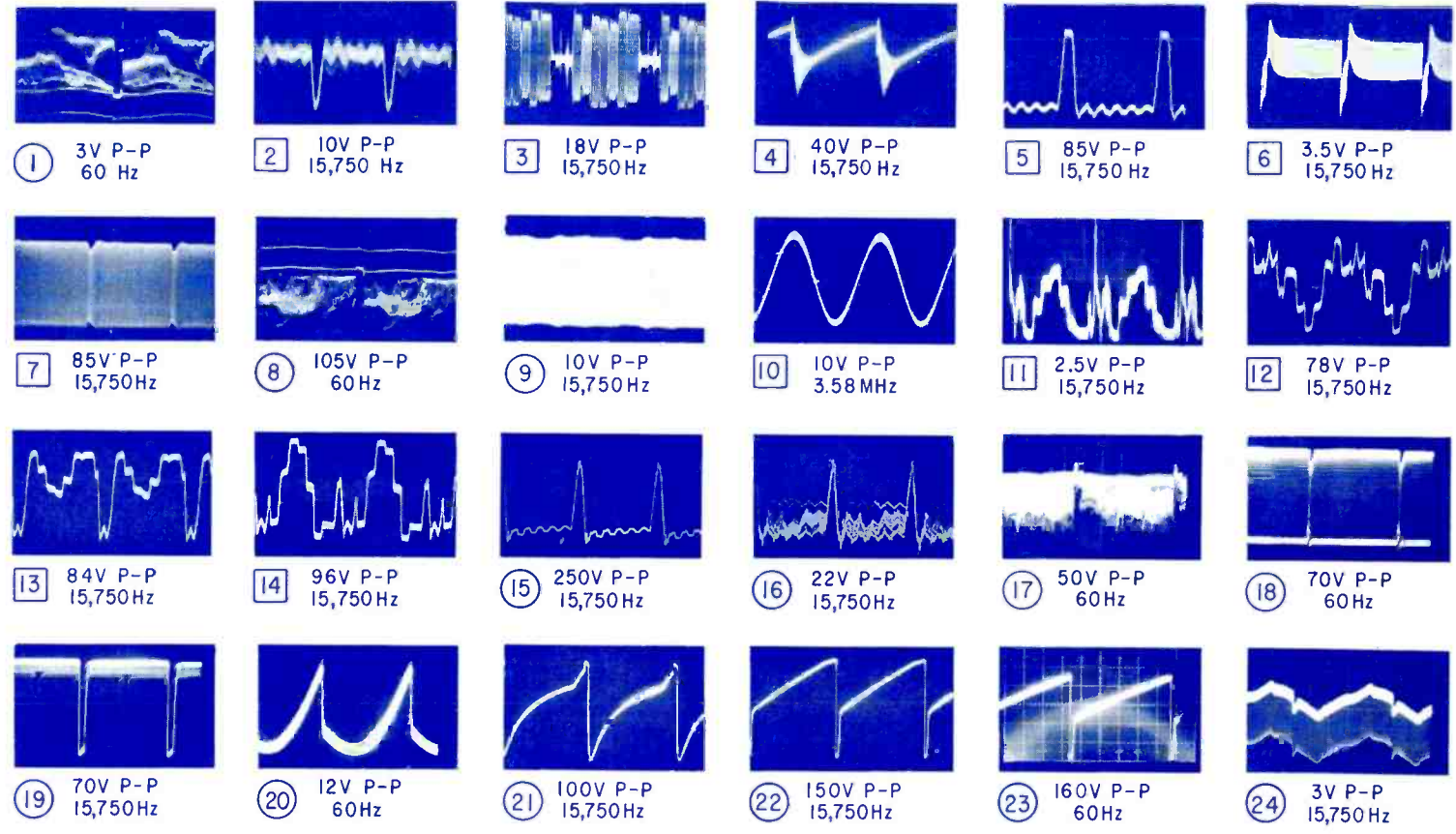
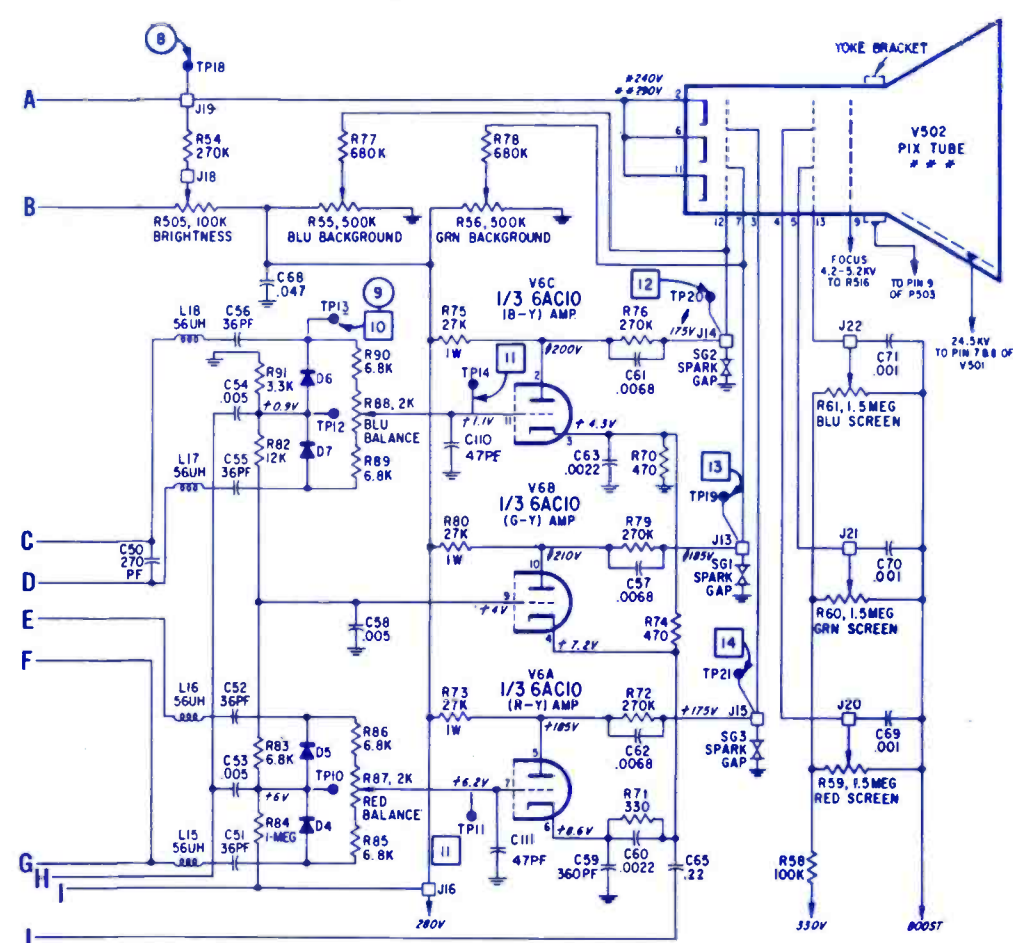


R811 - control top red/green vert lines 150Ω 2w	056-047300	L9 - coil 4.5MHz interstage	109-037800
R812 - control bottom red/green horiz lines	056-046700	L10 - coil quad	109-038000
R813 - control top red/green horiz lines 120Ω 2w	056-047200	L12 - coil 3.58MHz trap	109-038100
D4,5,6,7 - diode color demodulator	003-009600	L13 - coil 3.58MHz peaking	109-038200
D504 - rectifier focus	004-003200	L14 - coil 4.5MHz trap	111-021200
DL1 - coil delay line	111-037400	L21 - coil horiz efficiency	111-037300
L2 - coil IF coupling	111-038100	L24A,8 - coil horiz freq/sine wave	110-031300
L3 - coil 47.25MHz trap	109-037500	L25 - coil 1.8μh	111-021000
L5 - coil 4.5MHz trap	109-037700	L501 - deflection yoke	027-033100
L6 - coil choke 820μh	111-038700	L502 - coil degaussing	111-032600
		L503 - coil line filter	111-037200

L504 - coil filter choke	032-003000	T7 - xformer crystal filter	109-037900
L801 - coil R/G right vert lines	111-031800	T8 - xformer chroma demodulator	109-037100
L803 - coil blue horiz shape	111-031900	T501 - xformer vert output	033-014300
L804 - coil right blue horiz lines	111-031600	T502 - xformer power	033-014400
T1 - xformer 1st pix IF	109-037200	T503 - xformer high voltage	033-014500
T2 - xformer 2nd pix IF	109-037300	C8501 - circuit breaker	099-003500
T3 - xformer 3rd pix IF	109-037400	F501 - fuse 7o	099-003600
T4 - xformer chroma take off	109-036900	UHF tuner	006-021300
T5 - xformer audio output	031-010400	VHF tuner	006-021000
T6 - xformer chroma bandpass	109-037000		

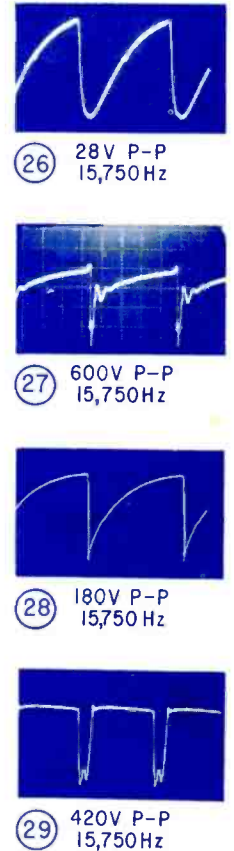
**AIRLINE**  
Color TV Models GHJ-17949A,  
59A

**NOTES:**  
○ INDICATES "AIR" SIGNAL  
□ INDICATES COLOR BAR SIGNAL



**NOTES:**  
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.  
2. CAPACITOR VALUES ARE IN MFD, UNLESS OTHERWISE NOTED.  
3. TUNER IS SHOWN IN VHF CHANNEL POSITION.

**VHF Tuner Schematic Diagram**





**AIRLINE**

TV Model  
GEN-11469A

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAX**

SYMBOL DESCRIPTION

C708A, B, C [200µf / 200µf / 50µf @180v elect  
R219 500K pot AGC (9V120)  
R314 1M pot tone (9V149)  
R315 SW-701 1M pot vol w/on-off switch (9V151UL)  
R517 1M pot vert hold (9V117)  
R518 1M pot vert size (9V119)  
R519 1M pot vert lin (9V119)

AIRLINE PART NO.  
TV32164

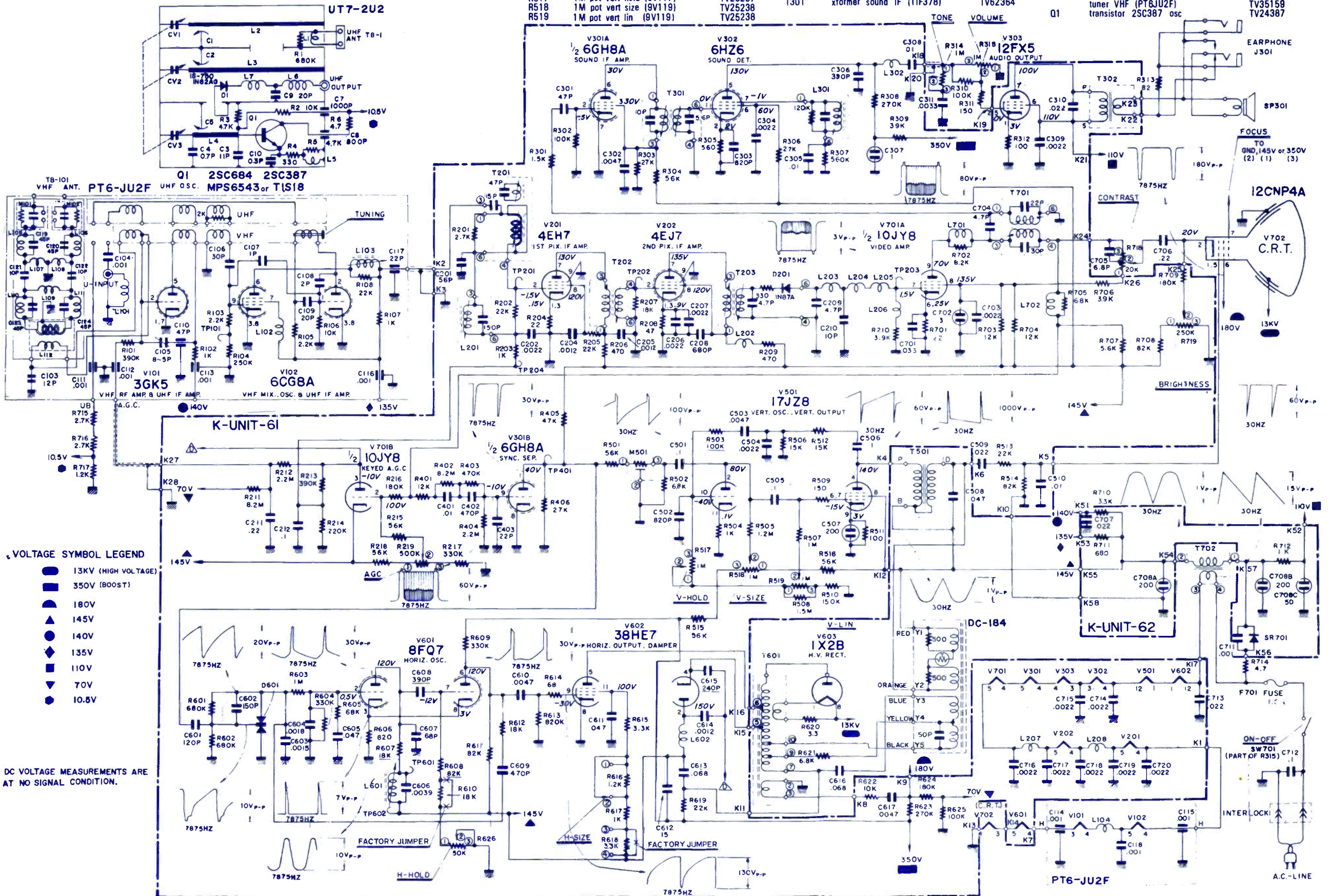
TV25234  
TV25235  
TV25236  
TV25237  
TV25238  
TV25238

R626 50K pot horiz hold (9V121)  
R718 20K pot contrast (8V007)  
R719 250K pot bright (9V118)  
L201 coil 47.25MHz trap (2TIF487)  
L301 coil sound detector (TIF544)  
L601 coil horiz hold (TL23)  
T201 xformer 1st pix IF (TIF367)  
T202 xformer 2nd pix IF (TIF379)  
T203 xformer pix detector (TL99)  
T301 xformer sound IF (TIF378)

TV25240  
TV25272  
TV25239  
TV62248  
TV62254  
TV61174  
TV62362  
TV62383  
TV82290  
TV62364

T302 xformer audio output (7T179)  
T501 xformer vert output (8T192)  
T801 xformer horiz output (8FT648)  
T701 xformer sound IF & 4.5MHz trap (2TIF491)  
T702 xformer power (9T204)  
M501 capristor (PRC302)  
tuner UHF (UT72U2)  
tuner VHF (PT6JU2F)  
transistor 2SC387 osc

TV11215  
TV11216  
TV11217  
TV62252  
TV11218  
TV3455  
TV35158  
TV35159  
TV24387



- VOLTAGE SYMBOL LEGEND**
- 13KV (HIGH VOLTAGE)
  - 350V (BOOST)
  - ▲ 180V
  - ◆ 145V
  - 140V
  - ◆ 135V
  - 110V
  - ▲ 70V
  - 10.5V

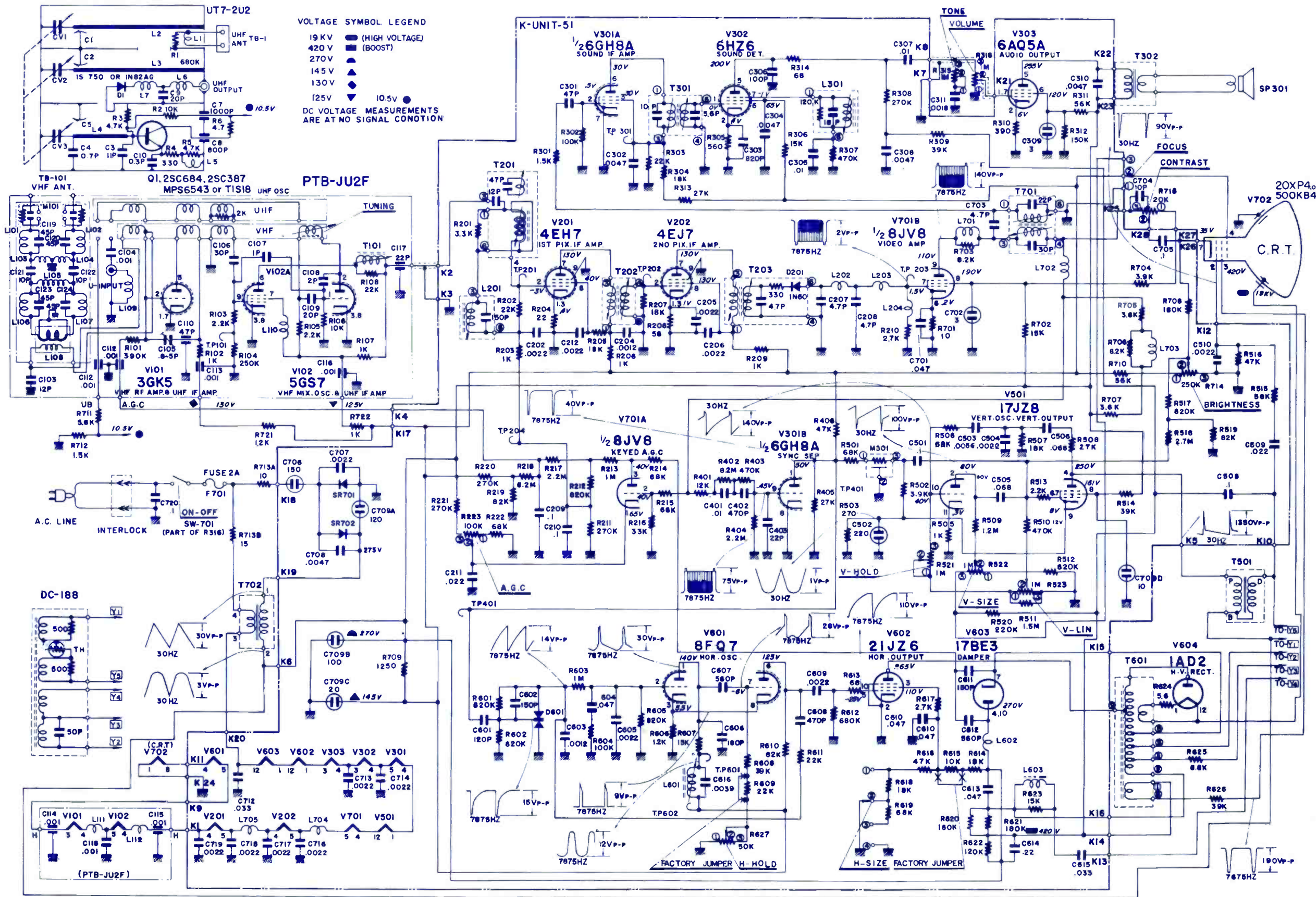
DC VOLTAGE MEASUREMENTS ARE AT NO SIGNAL CONDITION.



SYMBOL	DESCRIPTION	AIRLINE PART NO.
C606	180pf 500v 10% film mica	TV31139
C607	560pf 500v 5% film mica	TV3188
C709A,B,C,D	120μf/100μf/20μf/10μf @350v elect.	TV32169
R713A,B	10Ω/15Ω 30w 10% resin	TV23175
R223	100k pot AGC (9V-150)	TV25243
R315	1M pot tone (9V-149)	TV25235
R316	1M pot vol w/on-off switch (9V-151UL) SW-701	TV25236
R521	1M pot vert hold (9V-117)	TV25237
R522	1M pot vert size (9V-119)	TV25238
R523	1M pot vert lin (9V-119)	TV25238
R627	50k pot horiz hold (9V-121)	TV25240

R714	250k pot bright (9V-118)	TV25239
R715	20k pot contrast (8V-007)	TV25272
L201	coil 4.75MHz trap (21F-487)	TV62248
L202	coil filter (21L-970)	TV61474
L301	coil sound detector (T1F-551)	TV61478
L601	coil horiz hold (TL-23)	TV61174
L603	coil horiz lin (21L-984)	TV61479
L701	coil peaking (TL-289)	TV61480
L703	coil peaking (TL-290)	TV61482
T201	x-former 1st pix IF & 50.25MHz trap (T1F-302)	TV62288
T202	x-former 2nd pix IF (T1F-383)	TV62365
T203	x-former pix detector (21L-957X)	TV62343

T301	x-former sound IF (T1F-378)	TV62341
T302	x-former audio output (7T-182)	TV11219
L501	x-former vert output (8T-195)	TV11220
T601	x-former horiz output (8T-650)	TV11221
T701	x-former 4.5MHz trap (21F-491)	TV62252
T702	x-former power (9T-219)	TV11222
M501	capristor (PRC-302)	TV3455
D601	dual diode (SELEN-26)	TV24226
F701	fuse 2a	315002
UHF tuner (U17-2U2)		TV35158
VHF tuner (PTB-JU2F)		TV35139
deflection yoke (assembly)		TV61483





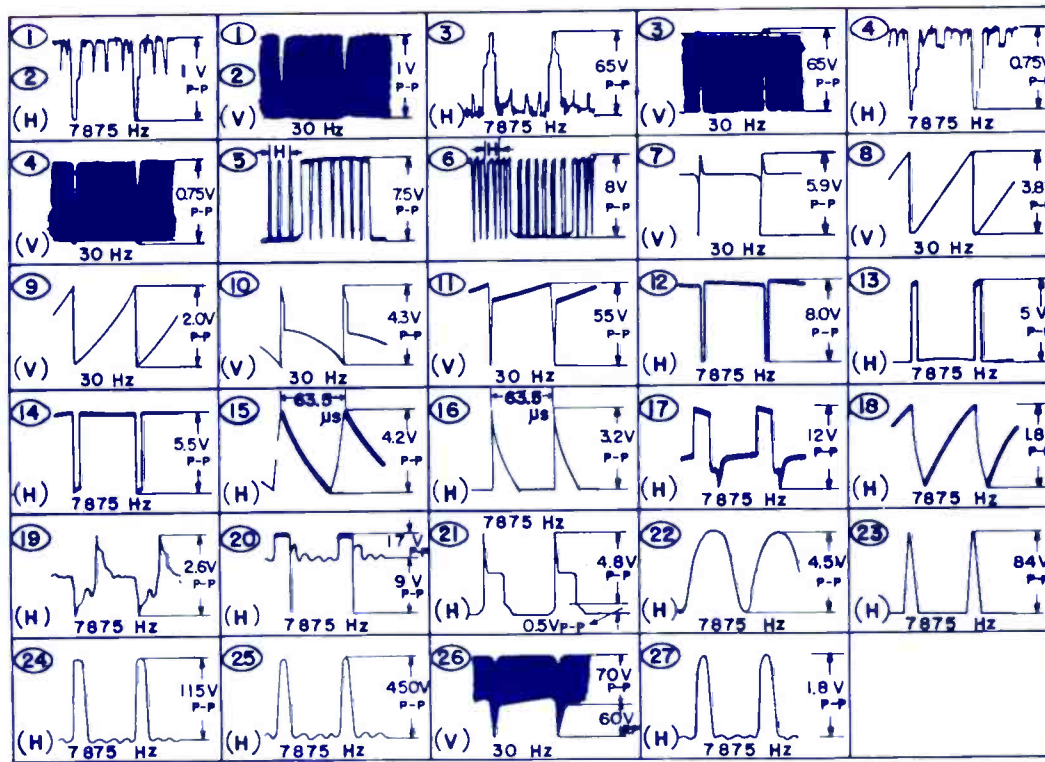
# AIRLINE

TV Model  
GEN-11769B

# ELECTRONIC TECHNICIAN / DEALER **TEKFA**X

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C407	2µf special discop	TV 33342
C603	3µf @10v elect	TV 32187
C607	220µf @6v elect	TV 32169
C611	470µf @16v elect	TV 32185
C713	12µf @75v elect	TV 321176
C902	3000µf @35v elect	TV 323336
C903	5000µf @20v elect	TV 325321
R221	500Ω pot agc 8v-387	TV 2562
R236	10K pot tuner agc 8v-040	TV 25111
R312-SW-901	10K pot vol cont w/on-off switch 8v-051	TV 25112
R403	10K pot tone 8v-052	TV 25113
R621	20K pot vert size assy 8v-039	TV 25114
R622	10K pot vert lin assy 8v-039	TV 25114
R623	5K pot vert bios assy 8v-039	TV 25114
R708	10K pot horiz hold assy 8v-093	TV 25114
R624	500Ω pot vert hold 8v-035	TV 22115
R734	270K pot bright 8v-348	TV 2573
R811	500Ω pot contr 8v-035	TV 25115
R904	10K pot power filter 8v-040	TV 25111
L201	coil 47.25MHz trap 91F-490	TV 62256
L202	coil 41.25MHz trap 91F-490	TV 62256
L701	coil horiz lin 2TL-995	TV 61497

T201	xformer 1st pix IF 91F-481	TV 62259
T202	xformer 2nd pix IF 91F-489	TV 62260
T203	xformer 3rd pix IF 91F-483	TV 62261
T301	xformer 1st sound IF 91F-434	TV 62114
T302	xformer 2nd sound IF 91F-435	TV 62115
T303	xformer ratio det 91F-436	TV 62116
T401	xformer audio driver 9T-182	TV 11130
T402	xformer audio output 9T-176A	TV 11131
T601	xformer vert osc 9T-187	TV 11132
T602	xformer vert output 9T-171	TV 11169
T701	xformer horiz osc 9T-180	TV 11133
T702	xformer horiz drive 9T-181	TV 11134
T703	xformer horiz output 8T-612	TV 11135
T901	xformer 9T-186	TV 11136
M201	coprister PRC-319	TV 3479
M202,203,205,206	coprister PRC-358	TV 3470
M204,207	coprister PRC-360	TV 3481
M301	coprister PRC-364	TV 3482
TH-401	therm D-285 audio cir	TV 24249
TH-601	therm D-285 vert cir	TV 24249
VDR601	volt dependent resistor	TV 24250
F901	fuse 1.6a	31506.1
	tuner vhf AT-232	TV 35116
	tuner uhf UHT-820	TV 35117
	yoke def assy w/leads	TV 61266



All the voltages in each point are measured with vacuum tube voltage meter. (No Input Signal)

## ELECTRICAL SPECIFICATIONS

Power Supply	120 volts 60Hz A.C.
Power Consumption	20 watts A.C. 13 watts D.C.
Power Output	0.4 watts
Picture Size	Approximately 75 sq in
Tuning Ranges	VHF—Channels 2 thru 13 UHF—Channels 14 thru 83
Intermediate Frequency	Picture—45.75MHz Sound—41.25MHz
Antenna Input Impedance	300 ohms balanced
Intercarrier Sound System	4.5MHz
Speaker Size & Type	7cm x 11cm (1107P-44A)
Voice Coil Impedance	8Ω @ 400Hz 240~8000Hz

### SENSITIVITY

Sensitivity (To produce 20 volts peak to peak at input to picture tube. Measured according to I.R.E. standards.)

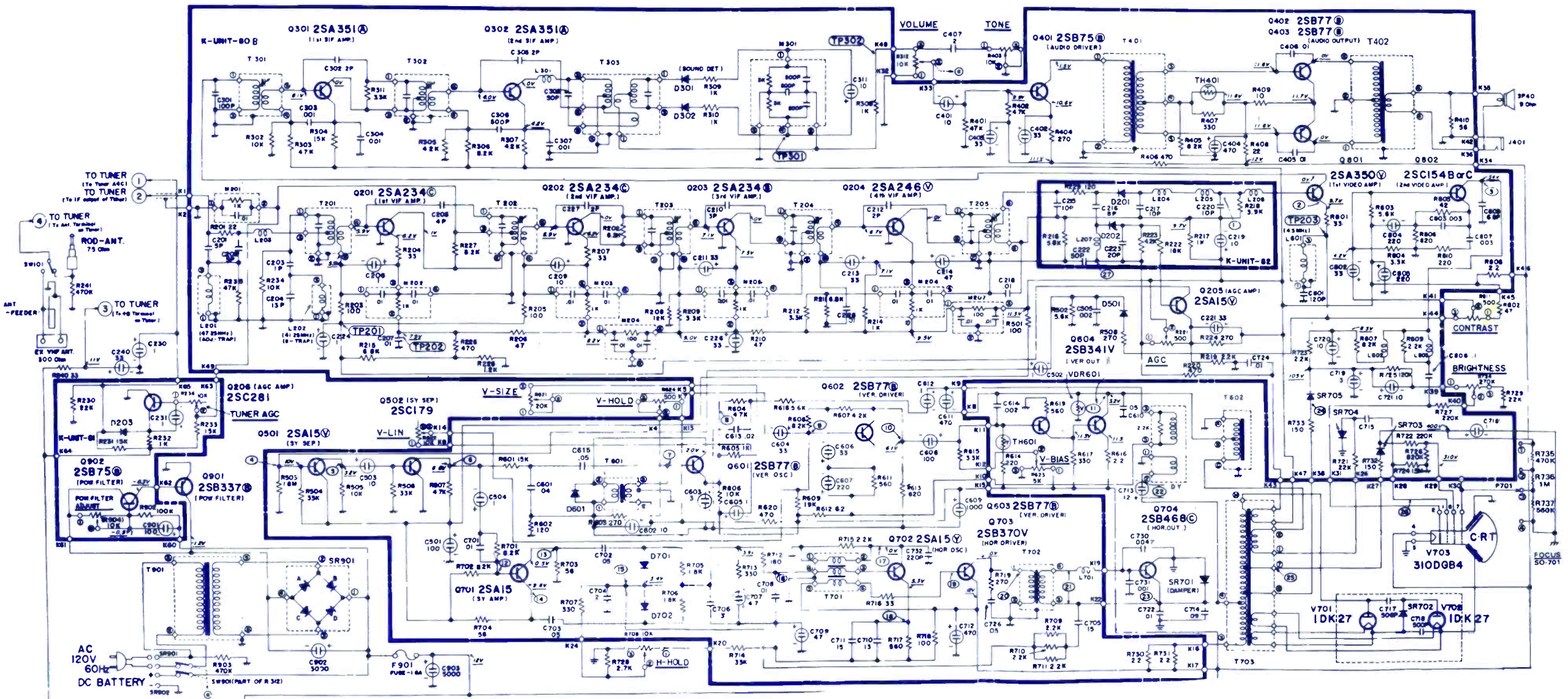
All controls, including fine tuning, set for maximum video output. Video signal measured between grid and cathode of picture tube.)

### VHF

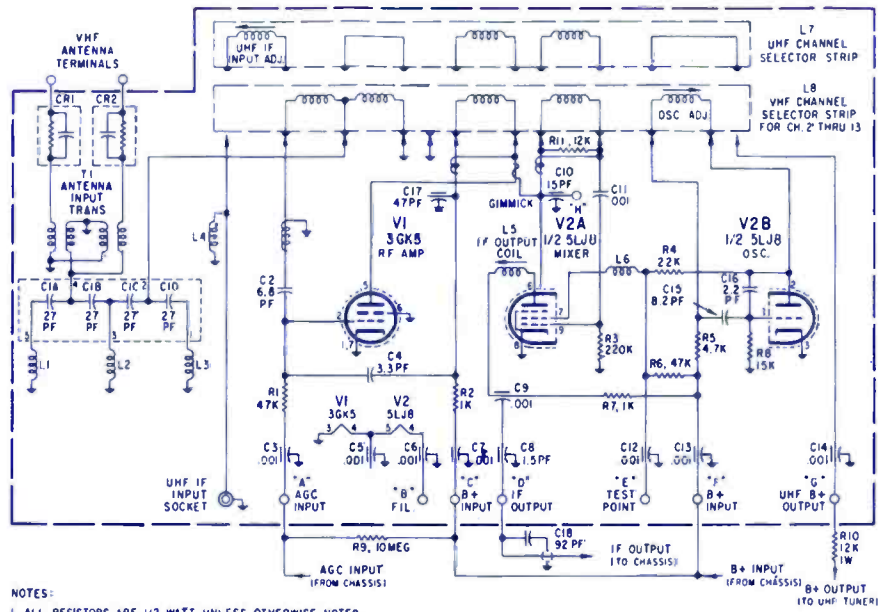
Channel 2	60µV	Channel 7	60µV
Channel 5	60µV	Channel 13	60µV

### UHF

Channel 14~83	60µV
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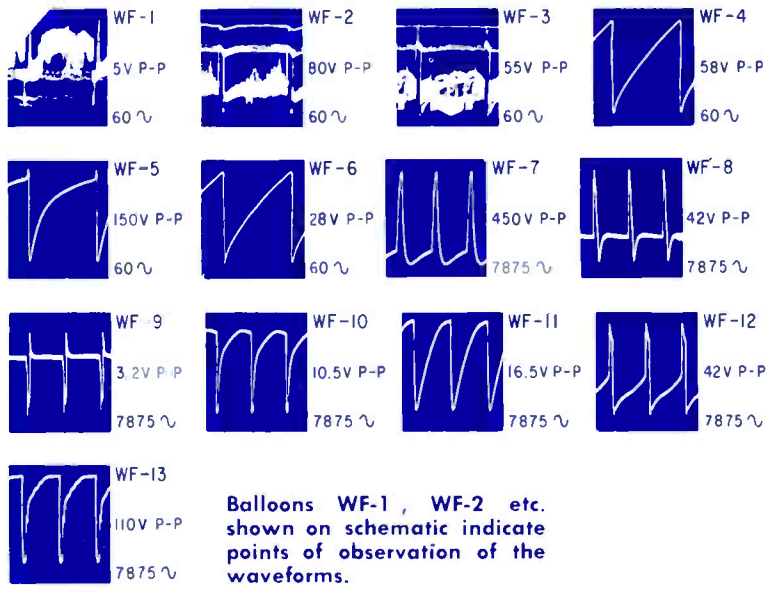






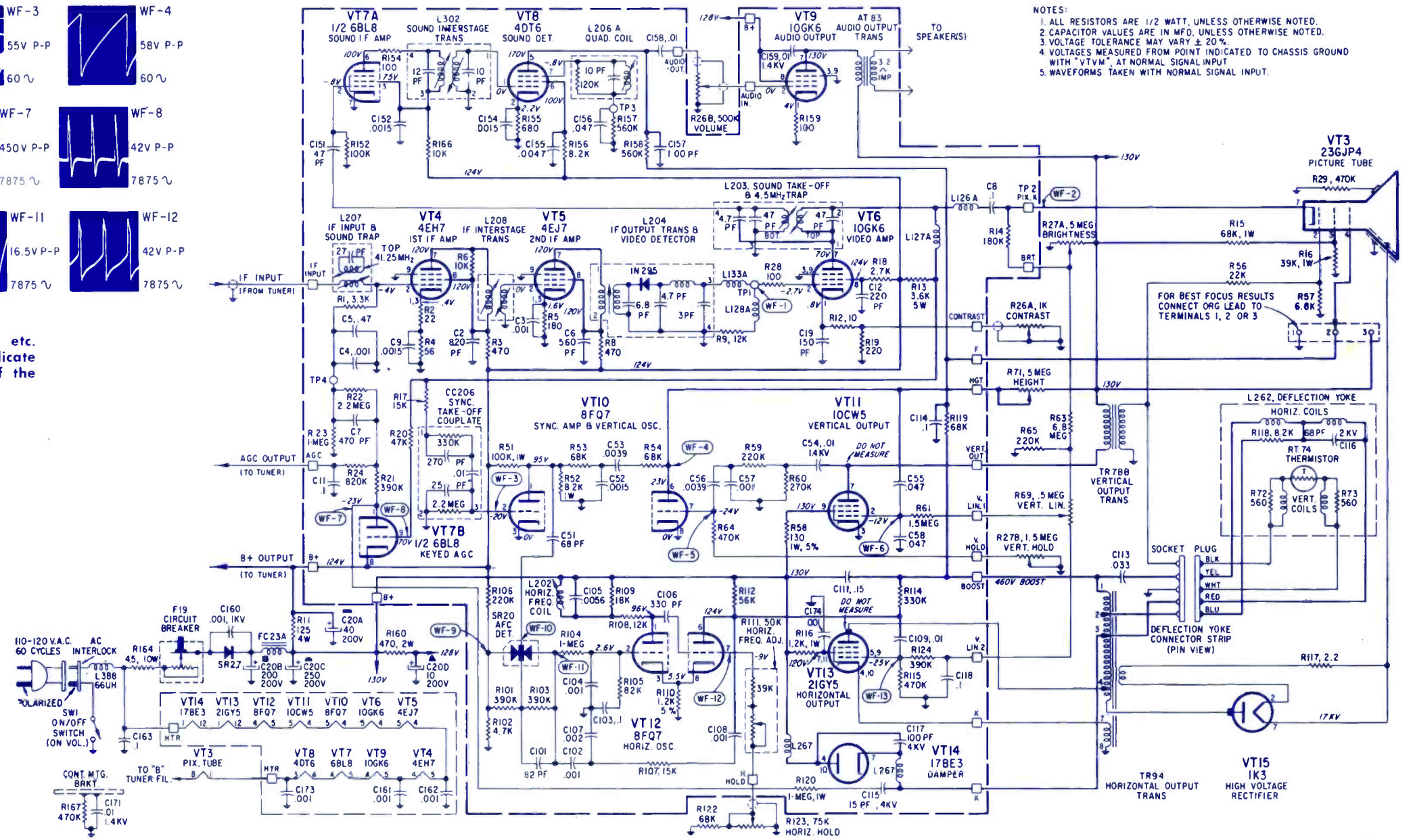
NOTES:  
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.  
2. CAPACITOR VALUES ARE IN MFD, UNLESS OTHERWISE NOTED.  
3. TUNER IS SHOWN IN VHF CHANNEL POSITION.

**VHF Tuner Schematic Diagram**



Balloons WF-1, WF-2 etc. shown on schematic indicate points of observation of the waveforms.

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C20A,B,C,D	40-200-250-10µf 200v elec	034-018800
C106	330pf 500v 5% mica	045-007200
C115	1.5pf 4KV 10% disc cer	825-150016
R11	125Ω 4w 10%	054-059500
R13	3.60Ω 5w 10% WW	053-362510
R164	4.5Ω 10w 10%	053-458110
R174	9.6Ω thermistor	057-056500
R26A,B	contr, 1000Ω (A); vol, 500K (B) w/an-off switch	055-051600
R27A,B	bright 5M (A); vert hold, 1.5M (B)	055-051700
R69	vert lin 5M	055-035000
R71	height 5M	055-035100
R111	horiz freq adj 50K	055-041700
R123	horiz hold 75K	055-032000
SR20	diode sel AFC det.	033-002000
SR27	rectifier silicon 1.0a 900PIV	004-003500
AT83	xformer audio output	031-008301
FC23A	filter choke	032-002301
L126A	coil video peak	111-012600
L127A	coil video peak	111-012700
L128A	coil peak	111-012800
L202	coil horiz freq	110-020200
L203	xformer sound take-off & 4.5MHz trap	109-020300
L204	xformer IF output & video det	109-020400
L206A	coil sound quad	109-020601
L208	xformer IF interstage	109-020800
L262	def yoke	027-026200
L267	coil choke 2 used	111-026700
L388	coil line filter	111-038800
TR78B	xformer vert output	033-007802
TR94	xformer horiz output	033-009400
	chassis brd Assy	073-041100
F19	circ brkr 1.75a	099-001900
CC206	couplate sync take-off	134-020600
	tuner, VHF	066-017300
	tuner, VHF	006-020500



NOTES:  
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.  
2. CAPACITOR VALUES ARE IN MFD, UNLESS OTHERWISE NOTED.  
3. VOLTAGE TOLERANCE MAY VARY ± 20%.  
4. VOLTAGES MEASURED FROM POINT INDICATED TO CHASSIS GROUND WITH "VTVM", AT NORMAL SIGNAL INPUT.  
5. WAVEFORMS TAKEN WITH NORMAL SIGNAL INPUT.



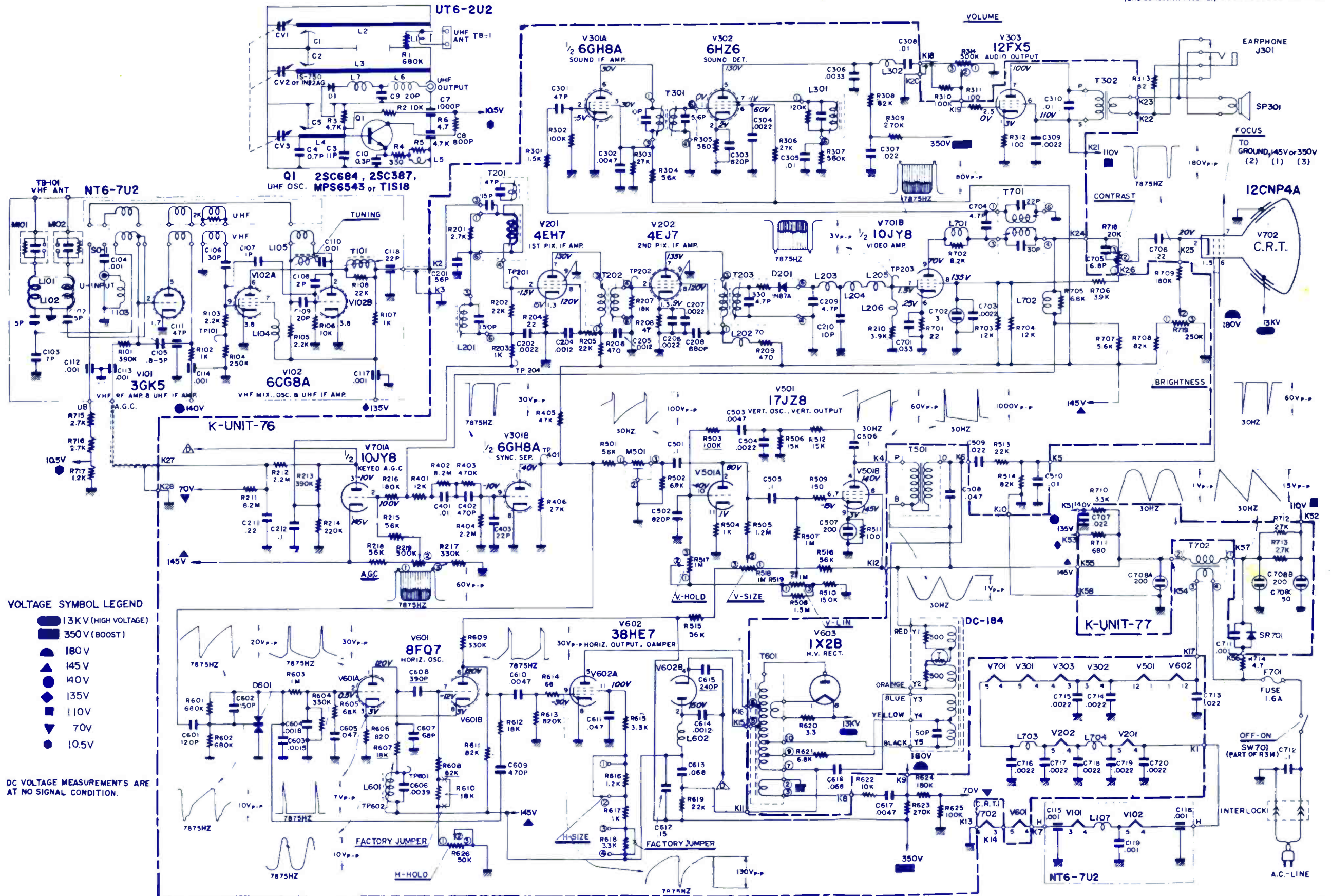
**AIRLINE**  
TV Model  
GEN-11269A

**ELECTRONIC**  
TECHNICIAN / DEALER **TEKFAK**

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C708 A, B, C	— 200µf/200µf/50µf @180velect	TV32164
R219	— 500K pot AGC (9V120)	TV25234
R314 SW701	— 500K pot on-off vol w/switch (8V020 UL)	TV2574
R517	— 1M pot vert hold (9V117)	TV25237
R518	— 1M pot vert lin (9V119)	TV25238

R519	— 1M pot vert size (9V119)	TV25238
R626	— 50K pot horiz hold (9V121)	TV25240
R718	— 20K pot contrast (8V007)	TV2572
R719	— 250K pot bright (9V118)	TV25239
L201	— coil 47.25MHz trap (2TIF487)	TV62248
L301	— coil sound detector (TIF544)	TV62254
L601	— coil horiz hold (TL23)	TV61174
T201	— xformer 1st pix IF & 50.25 MHz trap (TIF 367)	TV62339

T202	— xformer 2nd pix IF (TIF379)	TV62340
T203	— xformer pix detector (TL99)	TV62290
T301	— xformer sound IF (TIF378)	TV62341
T302	— xformer audio output (7T179)	TV11215
T501	— xformer vert output (8T192)	TV11216
T601	— xformer horiz output (8T640)	TV11224
T701	— xformer sound IF & 4.5 MHz trap (2TIF491)	TV62252
T702	— xformer power choke (9T204)	TV11218
M501	— capacitor (PRC302)	TV3455
	yoke deflection assembly	TV61447

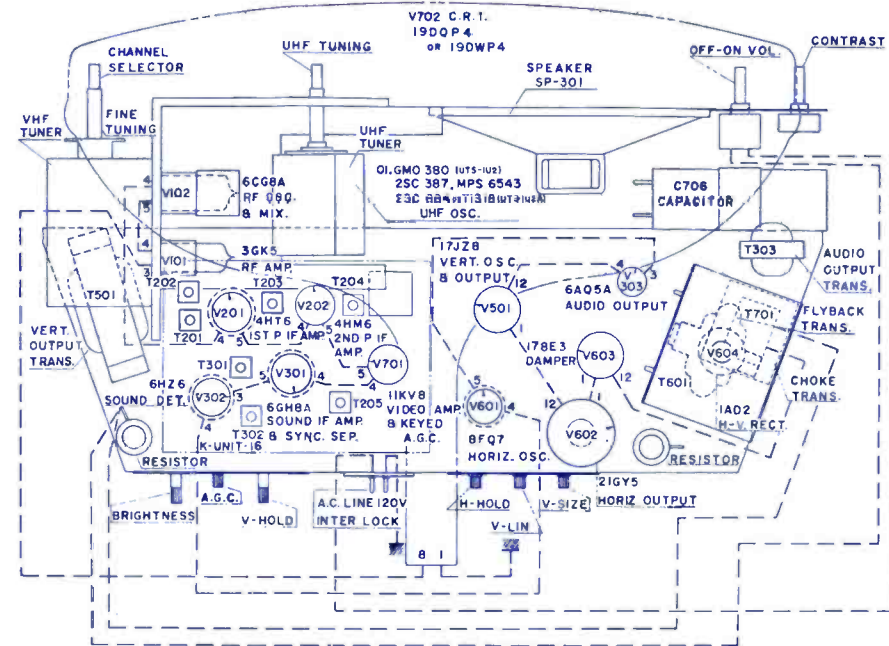


**VOLTAGE SYMBOL LEGEND**

- 13KV (HIGH VOLTAGE)
- 350V (BOOST)
- ▲ 180V
- ▲ 145V
- ▲ 140V
- ▲ 135V
- ▲ 110V
- ▲ 70V
- 10.5V

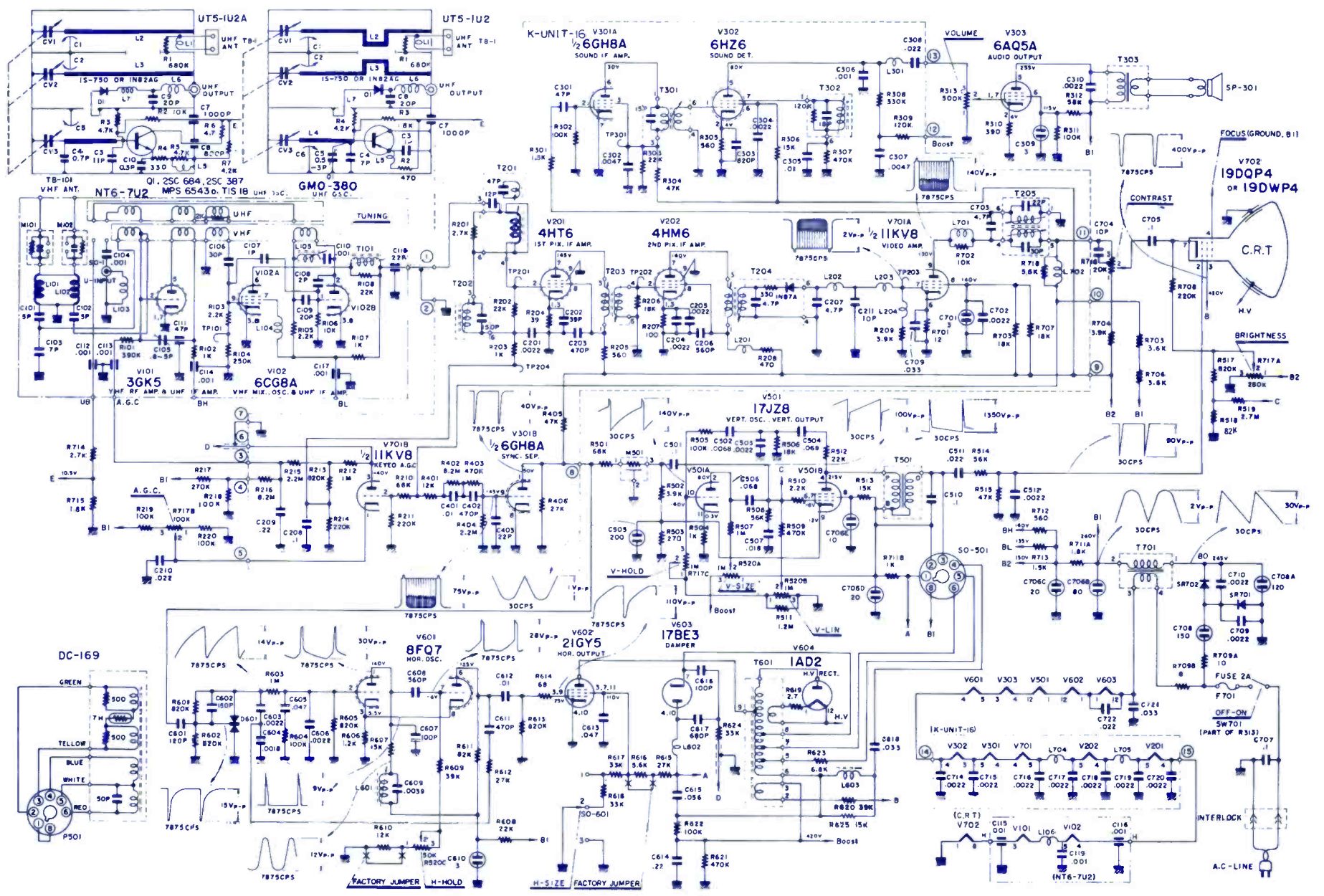
DC VOLTAGE MEASUREMENTS ARE AT NO SIGNAL CONDITION.





Chassis Tube Layout and Adjustments

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C503	.0022µf, 1kv, 20% discop	TV33210
C607	100pf, 500v, styrol	TV3156
C608	560pf, 500v, 5% mylar	TV33193
C614	.22µf, 600v, 10% tubular oil	TV33188
C615	.056µf, 600v, 10% tubular oil	DD-103
C701	3µf, 300v, elect	TV3282
C706A,B,C,D,E	120µf/80µf/20µf/10µf @350v, elect	TV3285
C707	1µf, special (oil)	TV33101
C708	150µf, 200v, elect	TV3284
<b>RESISTORS</b>		
R508	56k 1/2w 5%, carbon	CB5356
R512	22k 1/2w 5%, carbon	CS5322
R615	27k 2w, 10% film	TV2373
R705, R706	3.6k 4w 10% film	TV2376
R709	10Ω 12w	TV2378
B	8Ω 3w special	
R711A	1.8k 12w	TV2379
B	1k 3w special	
<b>CONTROLS</b>		
R313, SW-701	500K, pot vol with on-off switch (BV-020UL)	TV2574
R502	1M pot vert size	
B	1M pot vert lin	TV25165
C	50K pot horiz hold assembly (BV-060)	
R716	20K pot contrast (BV-007)	TV2572
R717A	250K pot bright	
B	100K, pot AGC	TV25166
C	1M, pot vert hold assembly (BV-061)	
<b>COILS &amp; XFORMERS</b>		
L201	RF choke, coil	TV61168
L202	filter coil	TV61340
L203	filter coil	TV61341
L204	peaking coil	TV61172
L301	RF choke coil	TV61168
L601	horiz hold coil	TV61336
L603	horiz lin coil	TV61337
L702	peaking coil	TV61367
L704	RF choke coil	TV61167
T201	1st pix IF & 50.25MHz trap, xformer	TV62288
T202	47.25MHz trap, xformer	TV62248
T203	2nd pix IF, xformer	TV62289
T204	pix det, xformer	TV62290
T205	4.5MHz trap, xformer	TV62252
T301	sound IF, xformer	TV62253
T302	sound det, xformer	TV62254
T303	audio output, xformer	TV11158
T501	vert output, xformer	TV11159
T601	horiz output, xformer	TV11160
T701	power, xformer	TV11161
<b>PACKAGED CIRCUITS</b>		
M501	copristor (PRC-302)	TV3455
<b>SEMICONDUCTORS</b>		
D601	dual diode	TV24190
SR701, SR702	rectifier	TV24191
<b>MISCELLANEOUS</b>		
F701	2a, fuse	315002
UHF, tuner (UTS-1U2)		TV35130
UHF, tuner, (UTS-1U2A)		TV35134



VHF, tuner (UTS-1U2)  
UHF, tuner, (UTS-1U2A)





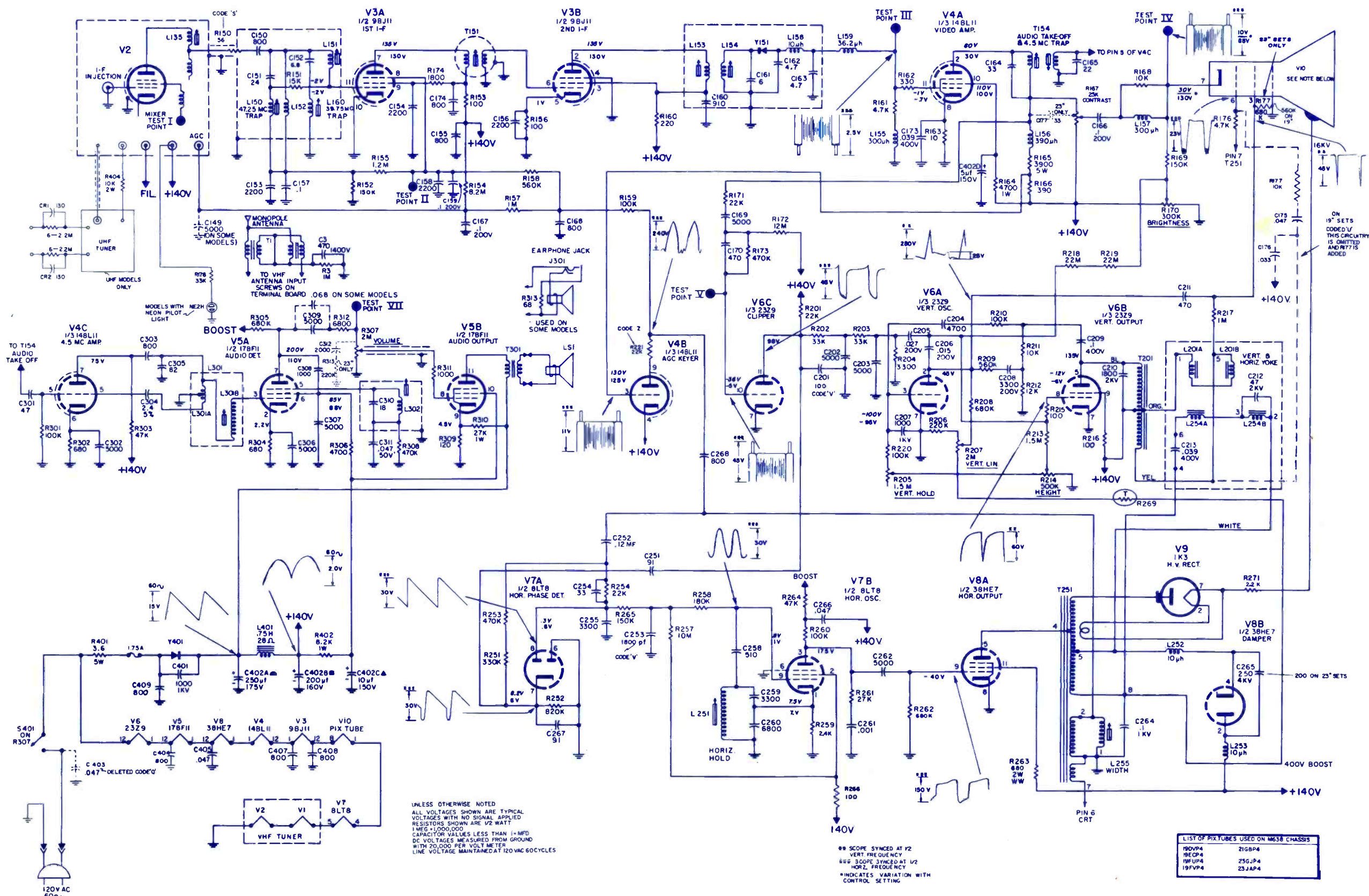


SYMBOL	DESCRIPTION	CANADIAN GENERAL ELECTRIC PART NO.
R165	3.9K 10% 5w	R7441
R401	3.6K 10% 5w WW	R6993
R207	vert lin 2M	R6995
R214	height 500K	R6996
C401	1000pf GMV 1kv °C	
C169	5000pf GMV 500v °C	R5323
C202	3 - 5000pf GMV 500v °C	R5323
C207	10000pf 20% 1kv °C	R6729
C210	18000pf 20% 2kv °C	R6746
C265	250pf 10% 4kv °C used on 19" sets only	R7439
C265	200pf 10% 4kv °C	
C402A, B, C, D	250µf 165v/200µf 160v/10µf	

L301	quad coil	R7440
L751	horiz osc coil	R7401
T301	audio OP xformer	R7448
T201	vert OP xformer	R6851
T251	horiz OP xformer	R7450
L255	width coil	R7575
L201	deflection yoke	R7009
L150	link trap coil	R7434
L151	1st IF grid coil assembly	R6735
T151	1st IF plate coil assembly	R6736
L152	link shunt coil	R7572
L153	coil video detector primary	R6737
L154	coil video detector secondary	R6738
L154	audio take off xformer	R7000

L155	choke coil 300µh	R4944
L156	choke coil 390µh	R7446
L157	choke coil 300µh	R6737
L160	41.25MHz trap coil	R6829
L301A, B	4.5MHz interstage coil	R7451
L401	filter reactor	R7296
L402	line choke	R1889
Y151	diode germanium	R6048
Y401	diode silicon power rectifier	R7573
F1	fuse 1.75A fast blow	R7442
R269	thermistor 150k	

If additional service information is required, copies of the complete Service Manual is available for a nominal charge from: Canadian General Electric Co. Ltd., 830 Lansdowne Avenue, Toronto 4, Ontario, Canada.

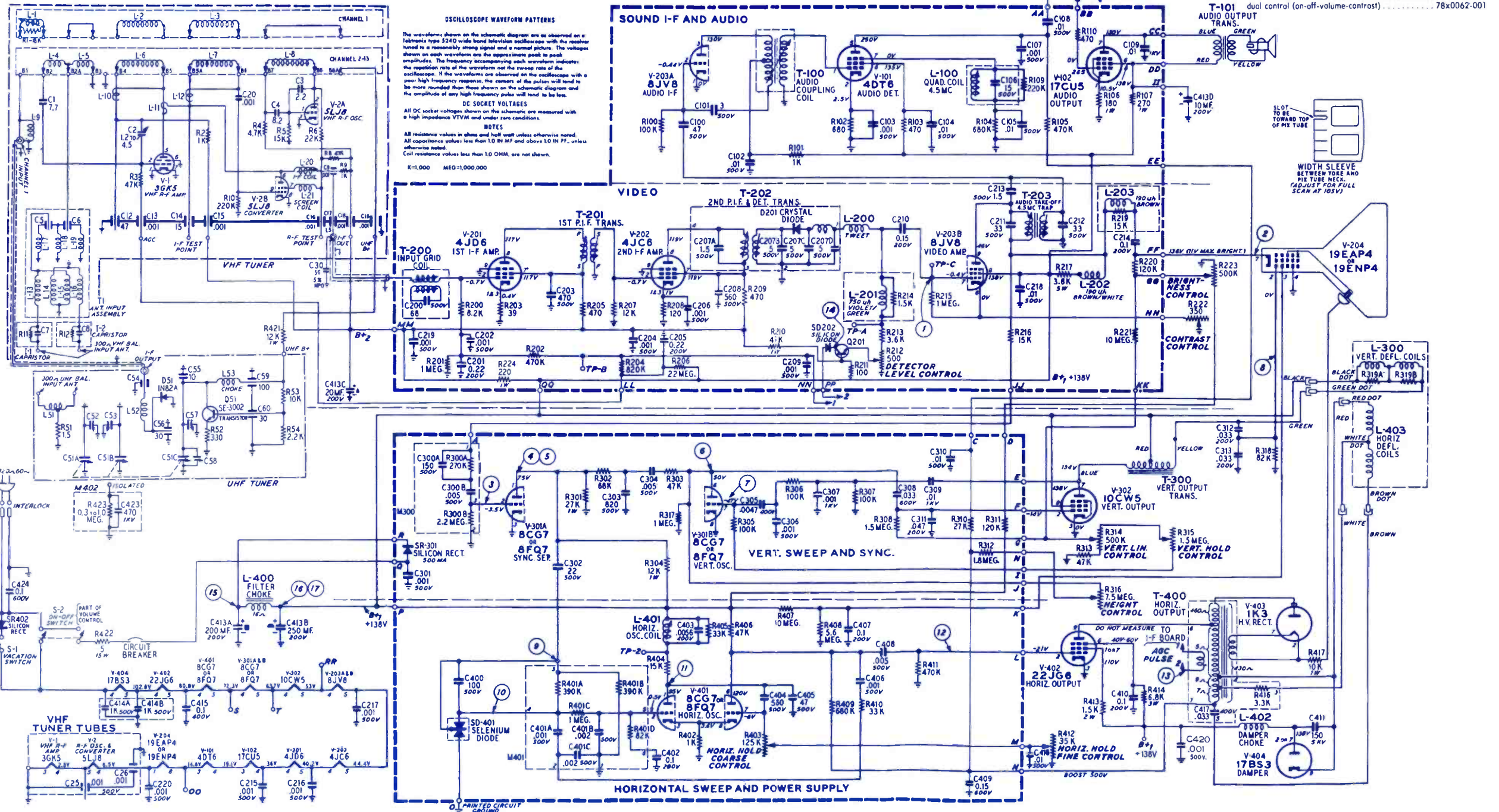
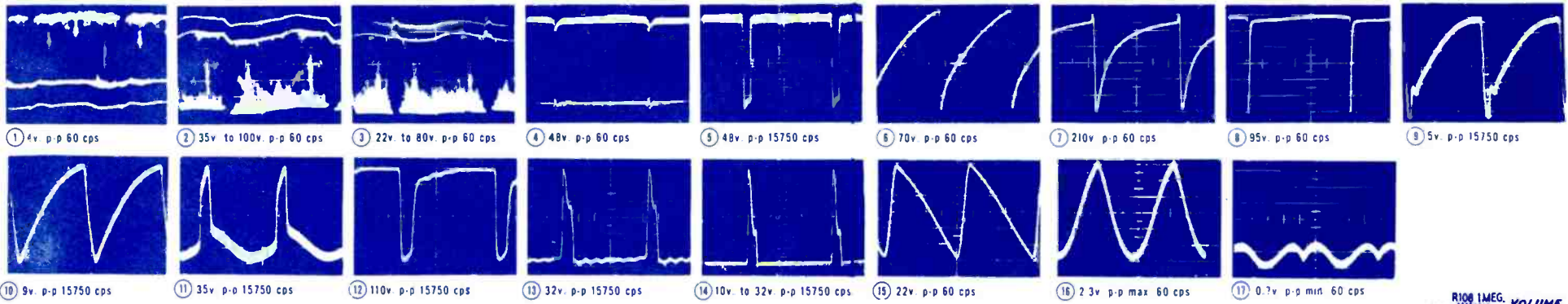




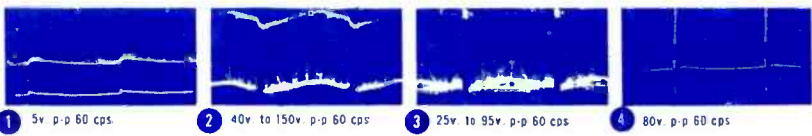
**CORONADO**  
TV Model TV2-7110A

**ELECTRONIC TECHNICIAN** *TEKFA*X

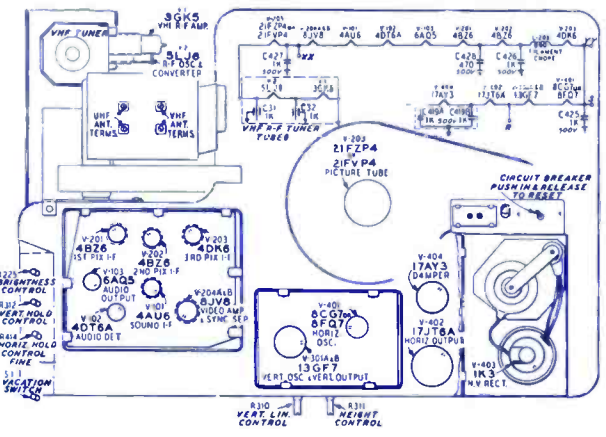
SYMBOL	DESCRIPTION	CORONADO TV MODEL PART NO.	
C109	.01µf 1kv cer.	80x0099-061	
C404	560pf 500v poly	46x0528-005	
C411	150pf 5kv cer.	80x0098-009	
C413A	200µf 200v dry elect.	45x0519-001	
C413B	250µf 200 v dry elect.	45x0519-001	
C413C	20µf 200v dry elect.	45x0519-001	
C413D	10µf 200v dry elect.		
C414A &			
C414B	1Kpf 500v dual cer.	80x0003-000	
C424	0.1µf spec Mylar	350x1044-064	
R413	1.5K 2w Pyrex	43x0450-013	
R414	6.8K 3w Pyrex	43x0378-000	
R212	500Ω det level control	40x0592-001	
R223	500K bright control	40x0585-010	
R314	500K vert lin control	40x0585-004	
R315	1.5M vert hold control	40x0585-008	
R316	7.5M height control	40x0585-002	
R403	125K horiz hold control (coarse)	40x0590-002	
R412	35K horiz hold control (fine)	40x0585-044	
R422	5Ω 15w WW	43x0317-000	
L100	quad coil	9A2595-001	
L200	choke tweeter filter	9A2432-000	
L201	750uh peaking coil	36A0094-002	
L202	190uh peaking coil	36A0094-001	
L203	190uh peaking coil	36A0094-010	
L400	filter choke	52x0102-006	
L401	horiz oscillator coil	9A2515-000	
L402	dampner choke	9A2380-000	
T100	sound IF coil	9A2597-001	
T101	audio output xlfomer	51x0235-001	
T200	IF input coil	9A2642-001	
T201	1st IF xlfomer	9A2622-001	
T202	2nd IF xlfomer	9A2650-001	
T203	sound take-off coil	9A2599-001	
T300	vertical output xlfomer	51x0229-003	
T400	horiz output xlfomer	53x0433-001	
tuner, VHF-UHF combination		25A1272-001	
deflection yoke assembly		9A2604-001	
capristor (M402)		76x0018-000	
capristor (M300)		76x0068-001	
capristor (M401)		76x0069-001	
selenium diode (SD202)		66x0038-001	
transistor (Q201)		86x0006-001	
circuit breaker		2A0568-001	
prf cir brd & components			
assy w tubes (sweep) PC30		38A3103-000	
printed circuit board & components ass'y with tubes IF PC5B		38A3505-000	
dual control (on-off-volume-contrast)		78x0062-001	







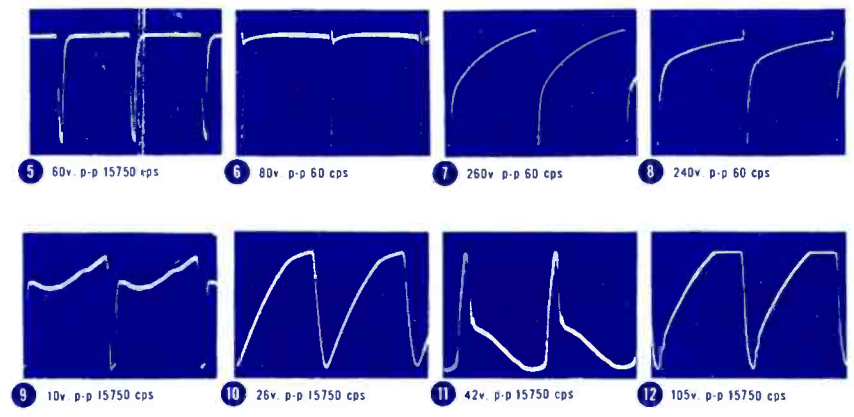
1 5v p-p 60 cps    2 40v to 150v p-p 60 cps    3 25v to 95v p-p 60 cps    4 80v p-p 60 cps



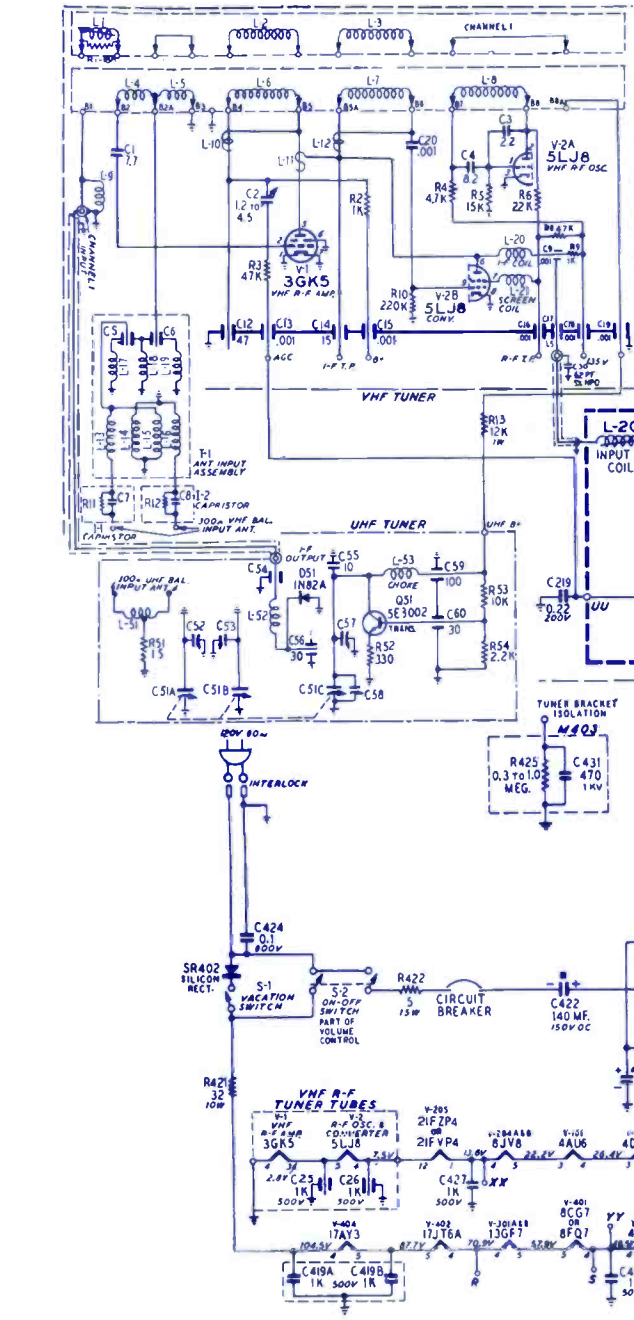
SYMBOL DESCRIPTION CORONADO PART NO.

SYMBOL	DESCRIPTION	CORONADO PART NO.
<b>CAPACITORS</b>		
C302	1µf, 600v, mylar	343X1044-060
C303	0.1µf 400v, mylar	343X1032-040
C306	.002µf 1kv cer.	80X0099-063
C407	330pf 500v mica	357X5331-152
C418	82pf 5kv mylar	80X0098-017
C420A	125µf 300v dry elect	
B	100µf 50v dry elect	
C	20µf, 300v dry elect	45X0521-001
D	10µf 300v dry elect	
C421A	125µf, 300v dry elect	
B	60µf, 300v dry elect	45X0520-001
C	20µf, 50v dry elect	
C422	140µf, 150v dry elect	45X0500-000
<b>RESISTORS</b>		
R413	2.5K 15w WW	43X0313-000
R416	6.8K 7w WW	43X0450-015
R419	10K 1w carbon	340X4103-810
R421	32Ω 10w WW	43X0401-021
R422	5Ω 15w WW	43X0317-000
R110	1M on-off vol control	36X0471-002
R214	500Ω det level control	40X0592-001
R225	500K bright control	40X0585-010
R227	350Ω contrast control	40X0585-030

R310	1K vert lin control	40X0585-042
R311	7.5M height control	40X0585-002
R312	1.5M vert hold control	40X0585-008
R405	300K horiz hold coarse control	40X0590-001
R414	50K horiz hold fine control	40X0585-009
<b>XFORMERS &amp; COILS</b>		
L100	sound i-f coil	9A2611-001
L101	quad grid coil	9A2595-001
L200	input grid coil	9A2541-000
L201	choke, i-fweat filter	9A2432-000
L202 & L204	500µh, peaking coil	36A0094-006
L203	500µh, peaking coil	36A0094-005
L205	60µh, peaking coil	36A0094-015
L206	sound take-off coil	9A2599-001
L208	choke, filament	9A2543-000
L400	filter choke	52X0112-004
L401	Horiz osc coil	9A2515-000
L402	dampner choke	9A2380-000
T100	audio output xlfamer	51X0240-002
T200	1st PIF xlfamer	9A2540-000
T201	2nd PIF xlfamer	9A2539-000
T202	3rd PIF & det xlfamer	9A2606-001
T300	vert output xlfamer	51X0239-002
T400	horiz output xlfamer	53X0425-001
<b>MISCELLANEOUS</b>		
capristor (M-202)		76X0068-001
capristor (M-401)		76X0069-001
capristor (M-301)		76X0070-001
capristor (M-101)		76X0071-001
capristor (M-403)		76X0018-000
capristor (M-201)		76X0072-001
silicon diode (SD-200)		66X0038-001
crystal diode (D-201)		66X0020-001
silicon transistor (Q-200)		86X0006-001
deflection yoke assembly		9A2625-001
circuit breaker		2A0568-001
tuner, VHF & UHF combination		25A1272-001



5 60v p-p 15750 cps    6 80v p-p 60 cps    7 260v p-p 60 cps    8 240v p-p 60 cps  
9 10v p-p 15750 cps    10 26v p-p 15750 cps    11 42v p-p 15750 cps    12 105v p-p 15750 cps

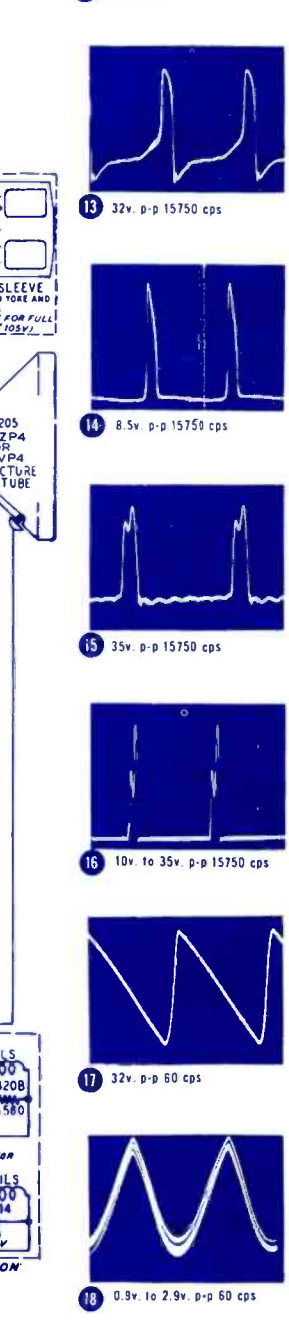
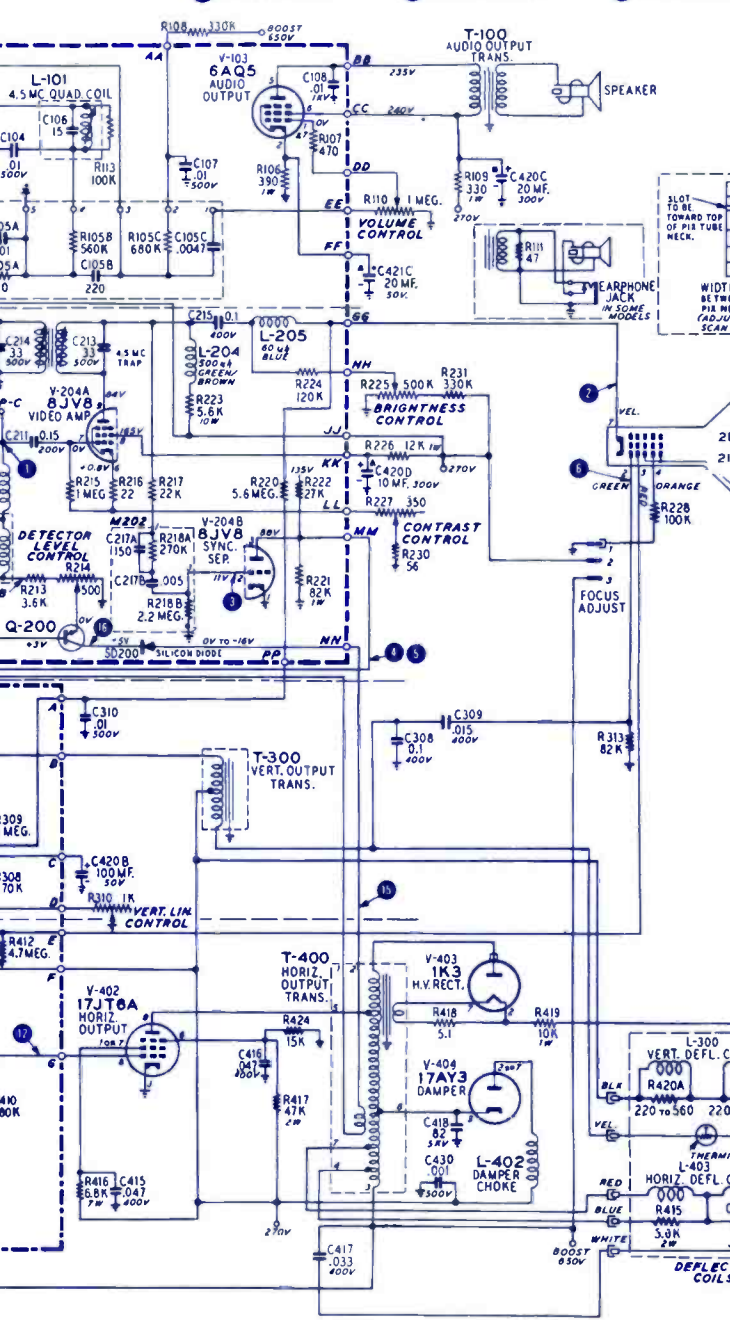
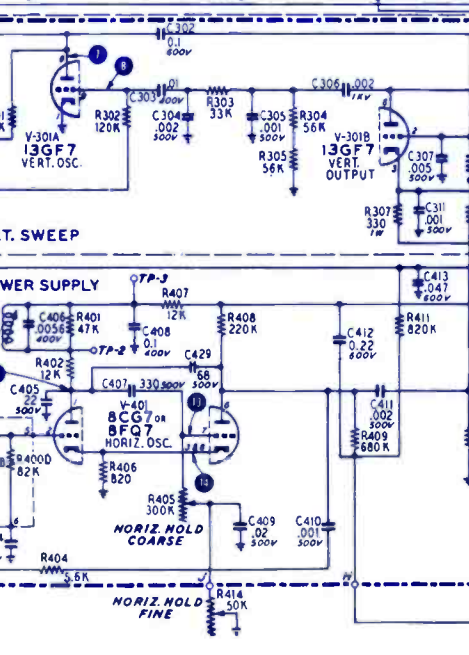
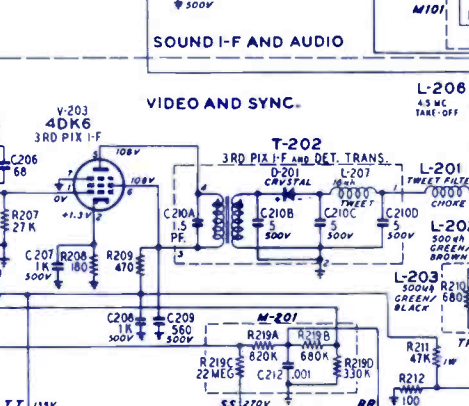
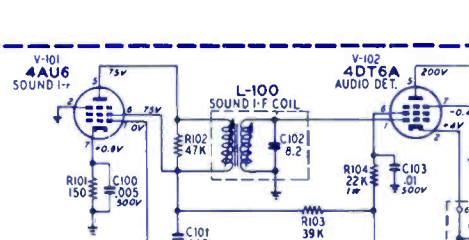
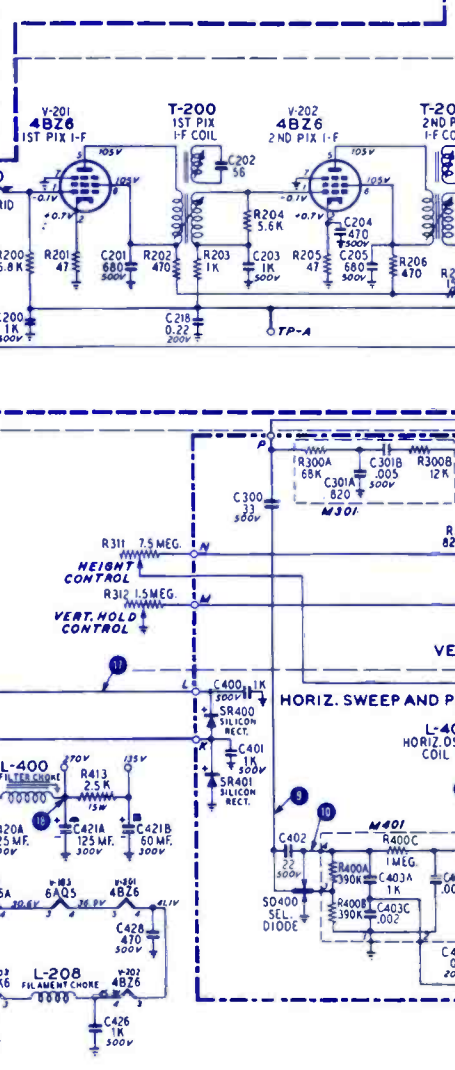


**OSCILSCOPE WAVEFORM PATTERNS**  
The waveforms shown on the schematic diagram are as observed on a Tektronic type 5240 wide band television oscilloscope with the receiver tuned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak-to-peak amplitudes. The frequency accompanying each waveform indicates the repetition rate of the waveforms and the sweep rate of the oscilloscope. If the waveforms are observed on the oscilloscope with a poor high frequency response, the centers of the pulses will tend to be more rounded than those shown on the schematic diagram and the amplitude of any high frequency noise will tend to be less.

**DC SOCKET VOLTAGES**  
All DC socket voltages shown on the schematic are measured with a high impedance VTVM and under load conditions.

**NOTES**  
All resistance values in ohms and half watt unless otherwise noted.  
All capacitance values less than 1.0 nF are in pF, unless otherwise noted.  
Coil resistance values less than 1.0 OHM are not shown.

R1=1000 MEG=1,000,000



13 32v p-p 15750 cps    14 8.5v p-p 15750 cps    15 35v p-p 15750 cps    16 10v to 35v p-p 15750 cps  
17 32v p-p 60 cps    18 0.9v to 2.9v p-p 60 cps



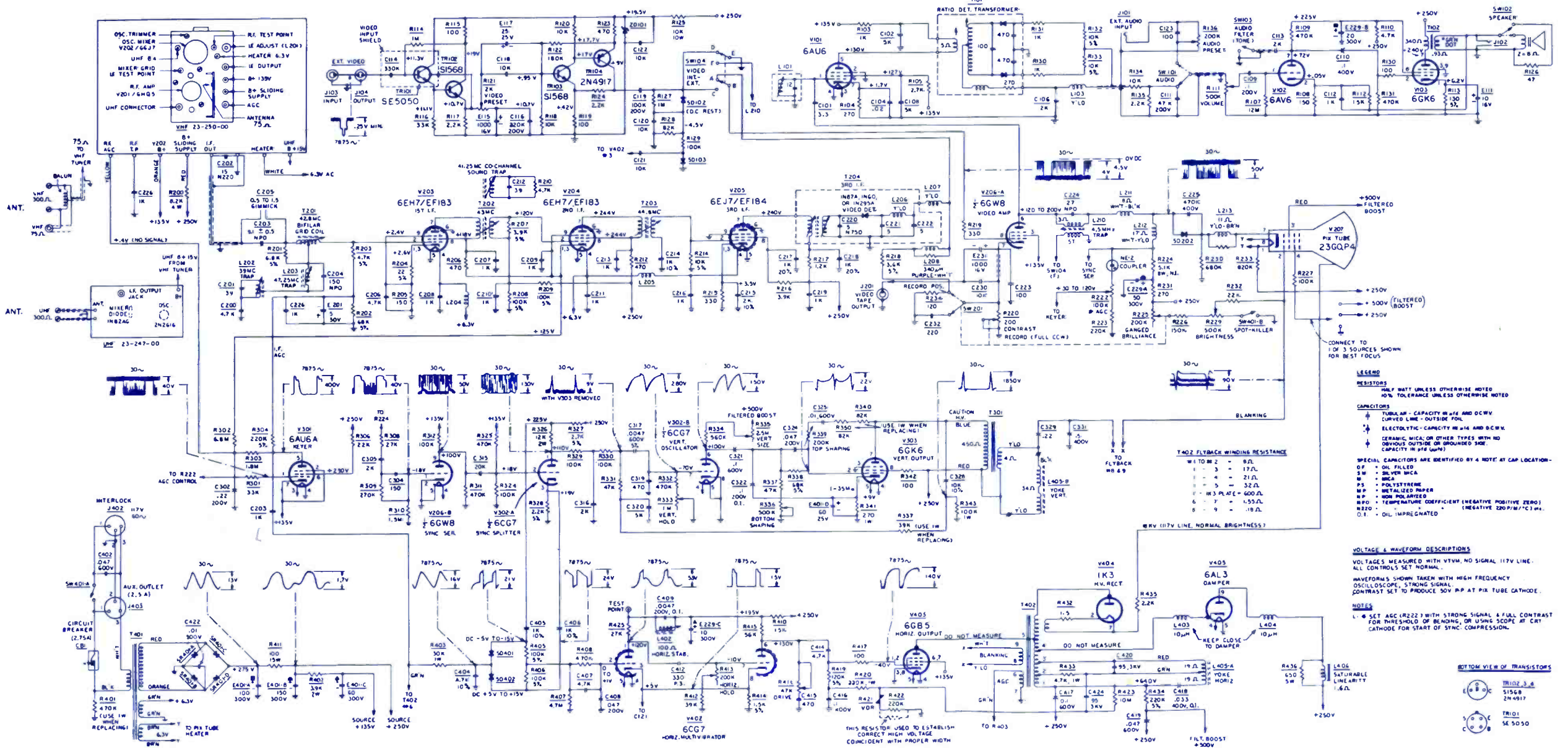
SYMBOL	DESCRIPTION	ELECTROHOME PART NO.
ZD101	zener diode	14-515-09
TR101	transistors SE5050 NPN	14-602-45
TR102/103	transistors S1568 NPN	14-602-29
TR104	transistors 2N417 PNP	14-602-44
L405	deflection yoke	21-107-01
T402	horiz output xformer	21-213-01
L204/205	choke RF heater	21-300-01
L208	coil peaking purple white	21-314-25
L211	coil peaking white black	21-314-11
L212	coil peaking white yellow	21-314-12
L213	coil peaking yellow brown	21-314-19
L402	coil horiz stabilizer	21-334-03
L101	coil sound take off	21-355-02
T204	coil IF output	21-390-01
T202/203	coil interstage IF and 41.25MHz trap	21-391-01
L401	coil lin	21-1034-02
T203	trap 47.25MHz	21-394-01
L210	trap 4.5MHz	21-1044-01
L201	bifilar grid	21-393-01
L207/103	choke coil	21-1400-05
L403/404	choke RF	21-1400-04
T101	ratio detector	21-1043-01
T301	vert xformer or alternate	24-10013-01

T401	power xformer	24-10129-01
CB401	circuit breaker	26-65-03
SW101/104	switch DPDT	26-2-22
SW103	switch DPDT	26-163-01
SW102	switch DPDT	26-163-02
SW104A	switch toggle neon bulb	26-200-01
		27-11-03
R436	resistor 5w 650Ω	42-21-70
E229	elect	44-203-14
L202	trap 38.50MHz	21-388-03
E401	elect	44-204-07
E117	elect 25μf 25v	44-205-09
E115/231	elect 1000μf 16v	44-205-38
E107/201	elect 5μf 50v	44-205-40
J402	ac interlock	34-362-01
R335	control vert size	41-146-06
R413	control horiz hold	41-189-01
R416	control drive	41-192-07
R222	control AGC	41-192-08
R339	control top shaping	41-192-09
R336	control bottom shaping	41-192-10
R121	control video preset	41-227-24
R136	control audio preset	41-227-25
	video printed board	50-1006-01
SD102/103/202/401/402	silicon diode	14-514-14
SR401A,B,C,D	silicon rectifier	28-22-01

**13. SOUND ALIGNMENT PROCEDURE**

On a strong signal, tune for best picture.  
 Set contrast and volume at mid range.  
 Peak sound take-off coil L101 and ratio detector transformer primary - T101 bottom slug - for maximum noise-free sound. Tune top slug of T101 (secondary) for cleanest and clearest sound (minimum distortion, hum, buzz and noise).  
 Check on other channels including a weak signal. Repeat alignment sequence if necessary. A weak

signal can be simulated by; (a) backing off antenna lead slightly and fixing its position or (b) using a resistive pad.  
 NOTE: By using an accurate 4.5 mHz fm generator fed in at the video amplifier grid, the familiar 'S' curve will be obtained at the ratio detector output (O.V.D.C. at center crossover) measured at the junction of C111/.047 and SW101. The secondary slug of the ratio detector sets up the symmetry of 'S' crossover and results in 0 volts D.C.





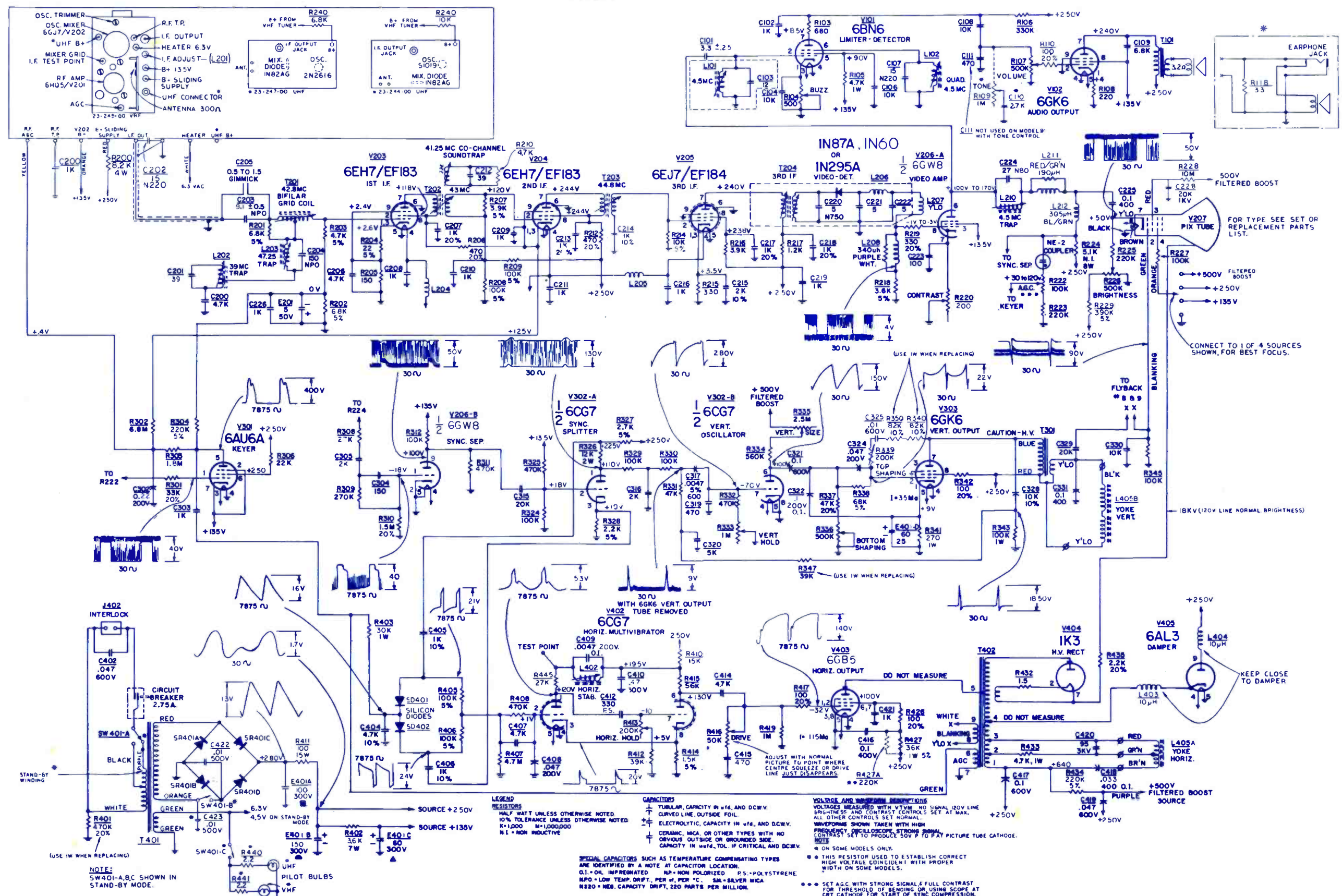
SYMBOL	DESCRIPTION	PART NO.
L405	-deflection yoke and centering device	21-107-01
T402	-horiz output xformer	21-213-01
L204, L205	-RF heater choke	21-300-01
L212	-peaking coil	21-314-33
L207	-choke coil	21-1400-05
L402	-horiz stabilizer coil	21-334-03
L210	-4.5MHz trap	21-347-01
L101	-sound take off coil	21-355-02
L102	-sound quad coil	21-360-01
L403, L404	-RF Choke 10mh	21-1400-04

SYMBOL	DESCRIPTION	PART NO.
L202	-trap 38.50MHz	21-338-03
T202	-coil interstage IF and 41.25MHz trap	21-391-01
L203	-trap 47.25MHz	21-394-01
T204	-IF output	21-390-01
T101	-audio output xformer	24-80008-11
T301	-vert output xformer	24-100013-01 or -02
T401	-power xformer	24-10124-01
CB401	-circuit breaker	26-65-03
NE2	-Neon Bulb	27-11-03
SR401A, B, C, D	-silicon rectifier	28-22-01
R335	-control vert size 2.5M	41-146-06
R413	-control horiz hold 200K	41-189-01

SYMBOL	DESCRIPTION	PART NO.
R416	-control drive 47K	41-192-07
R222	-control A G C 100K	41-192-08
R339	-control top shaping 220K	41-192-09
R336	-control bottom shaping 470K	41-192-10
R104	-control buzz 500Ω	41-228-05
R402	-resistor WW 7w 3.6K	42-21-53
R224	-resistor WW 8w 5.1K	42-8-08
R404	-resistor WW 15w 100Ω	42-21-10
E401	-elect four section 150μf	44-204-07
	150μf @ 300v	
	100μf @ 300v	
	600μf @ 300v	
	60μf @ 25v	

# ELECTRONIC TECHNICIAN / DEALER **TEKFAAX**

## ELECTRO-HOME TV Chassis M4



**NOTE:** SW401-A, B, C SHOWN IN STAND-BY MODE.

**LEGEND:**  
 RESISTORS: HALF WATT UNLESS OTHERWISE NOTED. 10% TOLERANCE UNLESS OTHERWISE NOTED. R=1,000 M=1,000,000 N.I.=NON INDUCTIVE  
 CAPACITORS: TURBULAR CAPACITY IN μF, AND DC MV. CURVED LINE, OUTSIDE FOIL. ELECTROLYTIC CAPACITY IN μF, AND DC MV. CERAMIC, MICA, OR OTHER TYPES WITH NO OBVIOUS OUTSIDE OR GROUNDING SIDE. CAPACITY IN μF, TOL. IF CRITICAL AND DC MV.  
 SPECIAL CAPACITORS SUCH AS TEMPERATURE COMPENSATING TYPES ARE IDENTIFIED BY A NOTE AT CAPACITOR LOCATION. Q1.=OIL IMPREGNATED NP.=NON POLARIZED PS.=POLYSTYRENE NPO.=LOW TEMP. DRIFT, PER μF, PER °C. SM.=SILVER MICA N220.=MICA CAPACITY DRIFT, 220 PARTS PER MILLION.

**VOLTAGE AND RESISTANCE SPECIFICATIONS:**  
 VOLTAGES MEASURED WITH VTVM, NO SIGNAL, 120V LINE BRIGHTNESS AND CONTRAST CONTROLS SET AT MAX. ALL OTHER CONTROLS SET NORMAL. UNIFORMITY SHOWN TAKEN WITH HIGH FREQUENCY OSCILLOSCOPE STRONG SIGNAL CONTRAST SET TO PRODUCE 50V P-P TO PICTURE TUBE CATHODE.  
 \* ON SOME MODELS ONLY.  
 • THIS RESISTOR USED TO ESTABLISH CORRECT HIGH VOLTAGE COINCIDENT WITH PROPER WIDTH ON SOME MODELS.  
 ••• SET AGC WITH STRONG SIGNAL & FULL CONTRAST FOR THRESHOLD OF BEING OR USING SCOPE AT CRT CATHODE FOR START OF SYNC COMPRESSION.



EMERSON

TV Chassis 120852, 853, 855

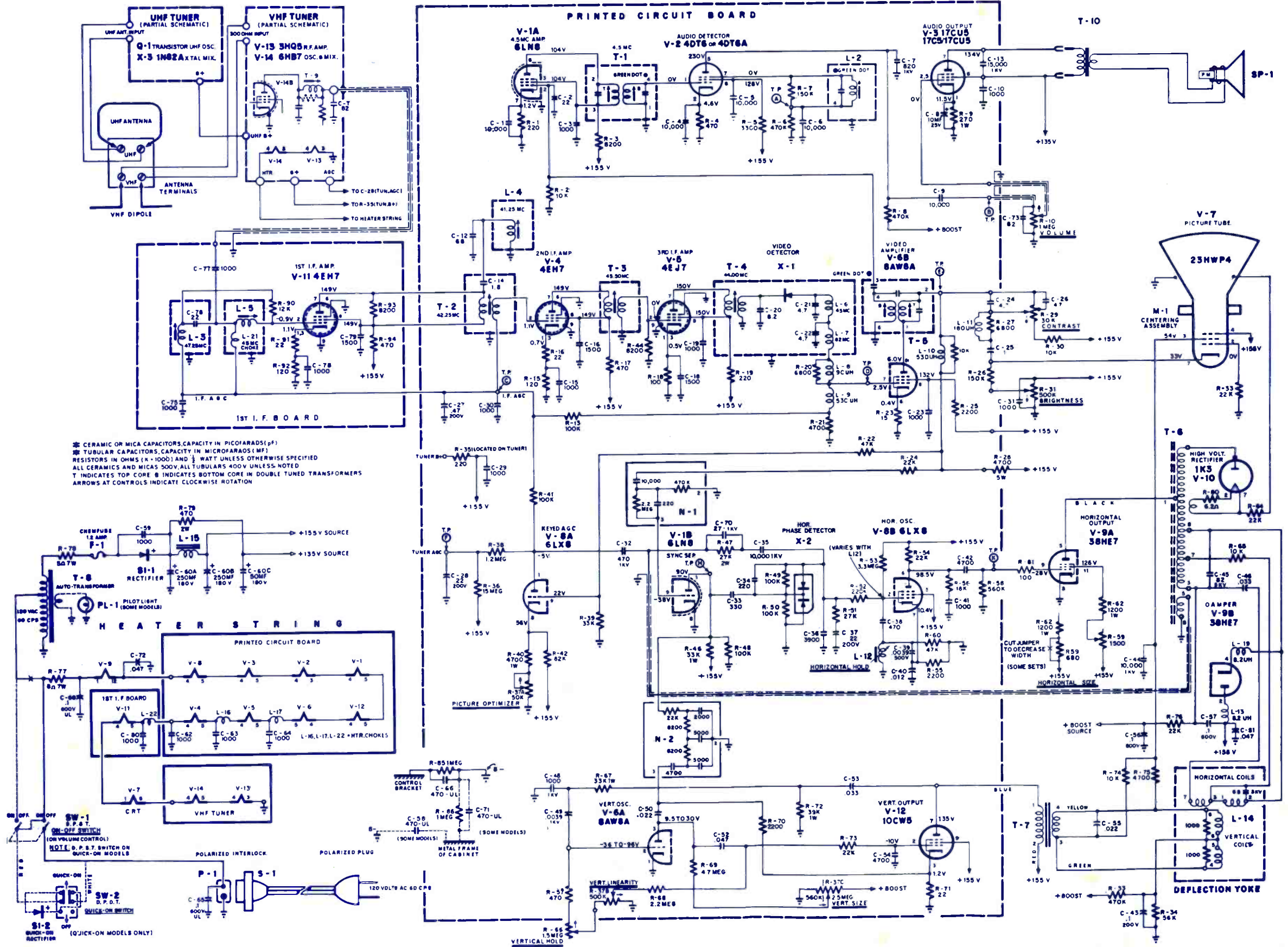
ELECTRONIC TECHNICIAN / DEALER

TEKFAK

SYMBOL	DESCRIPTION	EMERSON PART NO.
R10	1M w/switch (ch 120852) vol control	390912
R10	1M w/switch (ch 120853) vol control	390911
R10	1M w/switch (ch 120855) vol control	390833
R29	30K, contrast control	390894
R31	500K bright control	390895
R37	(A) 50K, picture optimizer control	390766
	(B) 500K, vert lin control	part of R37A
	(C) 2.5M, vert size control	part of R37A
R59	1.5K, horiz size control	390927

R66	1.5M, vert hold control	390896
R77	82 WW 10% tol 5w resistor	394284
R78	512 WW 10% tol 7w resistor	394216
	CAPACITOR	
CT1	9-180pf variable trimmer	900221
C45	82pf 5% tol 5kv cer	929040
C60A, B, C	elect 250/250/50µf, 180v	925664
C70	27pf, N1500 1kv cer	929157
L2	4.5MHz sound quad coil	720404
L3	47.25MHz adj channel sound trap	720452
L4	41.25MHz self-channel sound trap	720317

L9	530µh, video amp, peaking coil	708404
L12	horiz osc coil	716151
L14	deflection yoke assy.	708481
T1	4.5MHz sound interstage xformer	720513
T2	3-IF xformer, interstage	720450
T4	IF xformer, video detector	720455
T5	4.5MHz sound take-off xformer	720512
T6	horiz output xformer	738210
T7	vert output xformer	738193
F1	1.2a fuse	808236
N1	sync separator couplate	923059
N2	vert integrator couplate	923159



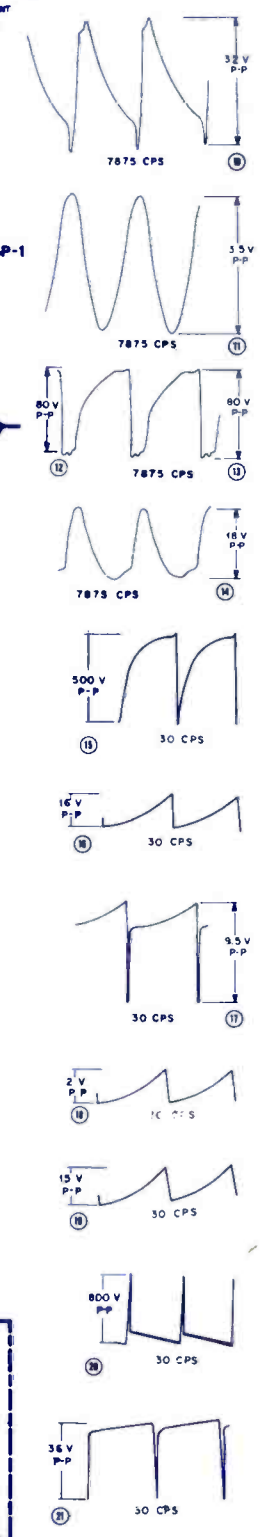
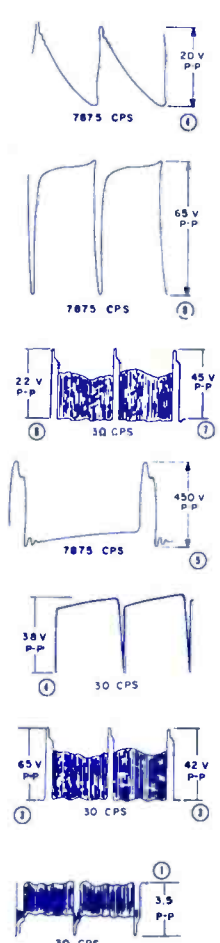
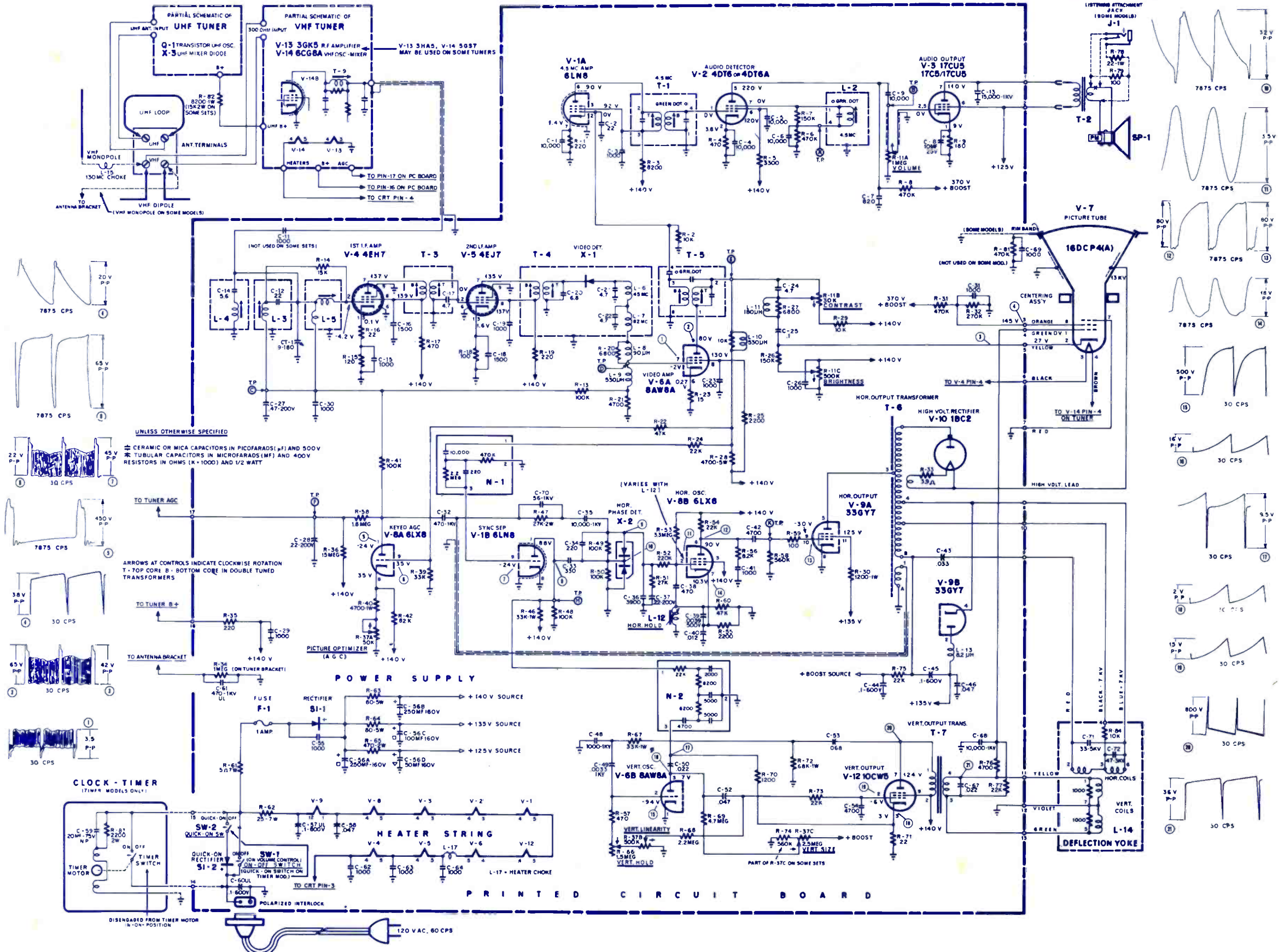
\* CERAMIC OR MICA CAPACITORS, CAPACITY IN PICOFARADS (pF)  
 \* TUBULAR CAPACITORS, CAPACITY IN MICROFARADS (µF)  
 \* RESISTORS IN OHMS (R), 1000S (K), AND 1,000,000S (M) UNLESS OTHERWISE SPECIFIED  
 ALL CERAMICS AND MICAS 500V, ALL TUBULARS 400V UNLESS NOTED  
 T INDICATES TOP CORE, B INDICATES BOTTOM CORE IN DOUBLE TUNED TRANSFORMERS  
 ARROWS AT CONTROLS INDICATE CLOCKWISE ROTATION



SYMBOL	DESCRIPTION	EMERSON PART NO.
R-11A	Vol cont-1M	391004
R-11B	Contrast cont-30K	391004
R-11C	Bright cont-500K	391004
R-37A	picture optimizer cont-50K	391003
R-37B	vert lin cont-500K	391003
R-37C	vert size cont-2.5M	391003
R-66	vert hold cont-1.5M	391005
CT-1	cap-var trimmer-9 to 180pf	900227

C-56A	cap-elec-250µf @160v	925700
C-56B	cap-elec-250µf @160v	925700
C-56C	cap-elec-100µf @160v	925700
C-56D	cap-elec-50µf @160v	925700
L-2	sound quad coil-4.5MHz	720404
L-12	horiz osc coil	716165
L-14	defl yoke assy	708534
L-16,17	filament choke	705031
T-1	sound interstage 4.5MHz	720513

T-2	audio output xformer (part of sp-1)	720454
T-3	if xformer interstage	720455
T-4	if xformer video det	720512
T-5	sound take-off xformer 4.5MHz	738227
T-6	horiz output xformer	738226
T-7	vert output xformer	808256
F-1	fuse 1a	923059
N-1	couplate-sync separator	923159
N-2	couplate-vert integrator	817077
X-1	diode video det type IN295	



UNLESS OTHERWISE SPECIFIED  
 CERAMIC OR MICA CAPACITORS IN PICOFARADS (PF) AND 500V  
 TUBULAR CAPACITORS IN MICROFARADS (MF) AND 400V  
 RESISTORS IN OHMS (K = 1000) AND 1/2 WATT

ARROWS AT CONTROLS INDICATE CLOCKWISE ROTATION  
 T - TOP CORE B - BOTTOM CORE IN DOUBLE TUNED  
 TRANSFORMERS

TO TUNER AGC

TO TUNER B+

TO ANTENNA BRACKET

TO TUNER BRACKET

TO TUNER BRACKET

TO TUNER BRACKET

TO TUNER BRACKET

TO TUNER BRACKET

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TO TUNER BRACKET

TO TUNER BRACKET



**EMERSON**

Color TV Model  
35P01/35P02

**ELECTRONIC**  
TECHNICIAN / DEALER

**TEKFAX**

SYMBOL	DESCRIPTION	EMERSON PART NO.
C908	elect capacitor 60+ 50+ 30µf 450v	981974
C931	elect capacitor 100+ 33+ 22µf 350v	981977
C939	elect capacitor 60+ 50+ 30µf 450v	981975
C940	elect capacitor 60+ 50+ 30µf 450v	981974
C942	elect capacitor 200+ 40µf 300v	981976
R931	WW resistor 411 35w	981980
R932	WW resistor 2.2K 8w	981978
R933	WW resistor 1.2K 15w	981979

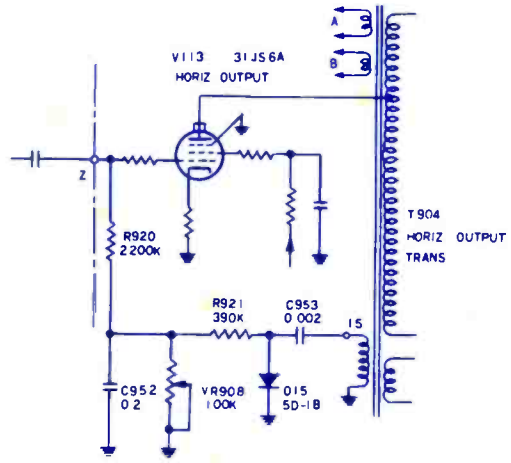
L101	47.25MHz trap coil	981982
L102	peaking coil-A 12µh	981995
L103	peaking coil 15µh	981997
L104	peaking coil 470µh	981993
L105	peaking coil 100µh	981991
L106	choke coil 6.8µh	981996
L107	peaking coil 82µh	981990
L108	peaking coil 100µh	981991
L109, L110, L111	choke coil 6.8µh	981996

L112	sound take-off coil	981986
L113	quad coil	981988
L114	peaking coil 100µh	981991
L115	peaking coil 180µh	981992
L116, L117	choke coil	981998
L118	peaking coil 820µh	981994
L119	peaking coil 68µh	981989
L301	horiz asc & stabilizer coil	982014
L303	peaking coil 6.8µh 10%	982024
L304, L305	phase coil	982022

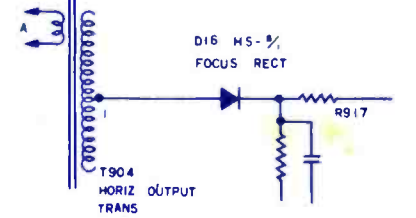
**NOTE :**

- All resistance values in ohms K = 1,000  
M = 1,000,000
- Voltage reading taken with "VTVM" from point indicated to chassis ground. Voltage Readings may vary ± 10%. Tuner on unused channel, Contrast at maximum. AGC at fully clockwise, other controls at normal, line voltage 120 volts.  
● Marked voltage readings were taken using a color bar signal, all controls at normal.
- All waveforms measured with strong signal input. Contrast and AGC set to give normal picture. Line voltage 120 volts.
- Numbers in circles refer to waveform numbers.
- Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in mfd, and the values more than 1 are in pF.

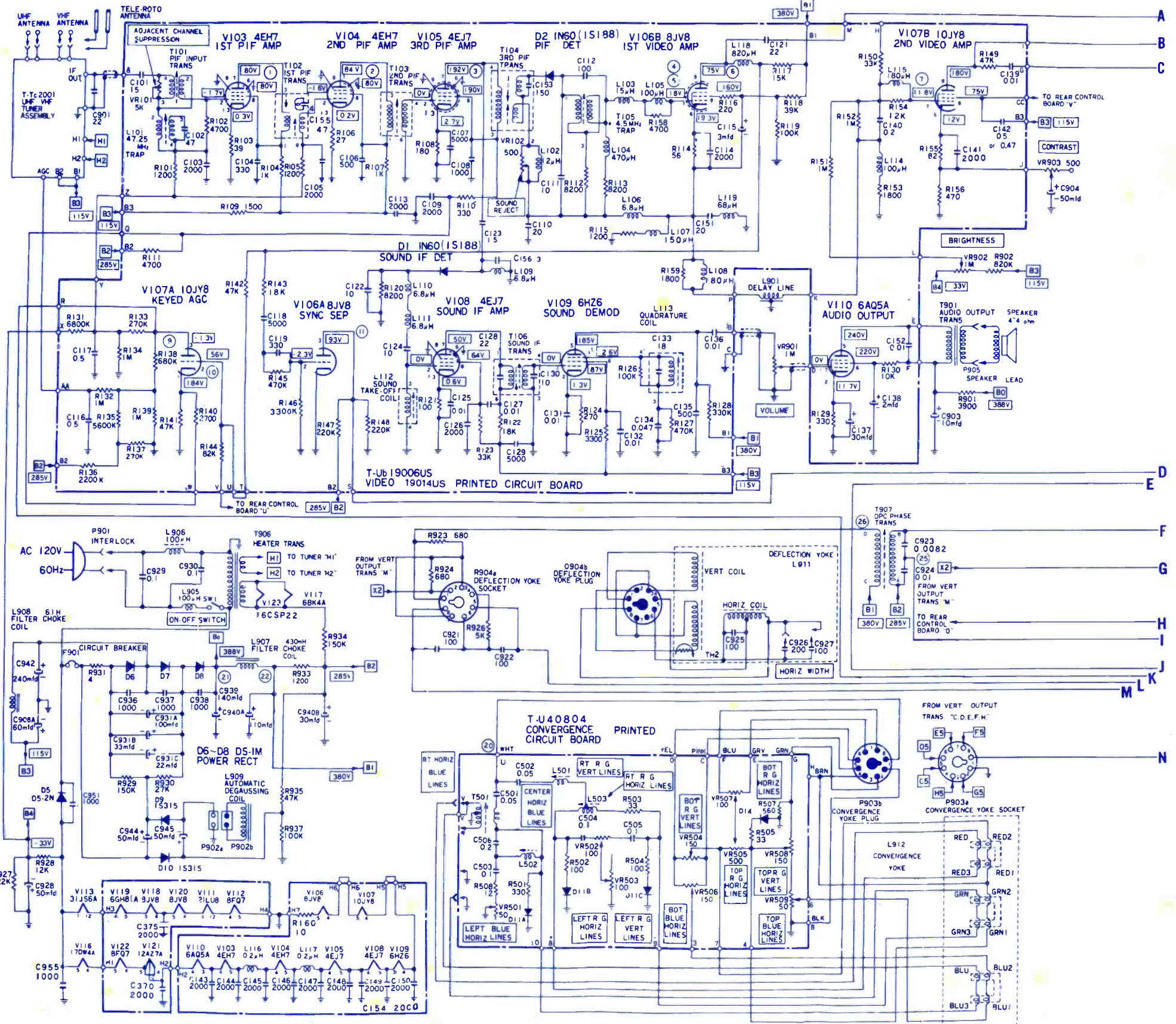
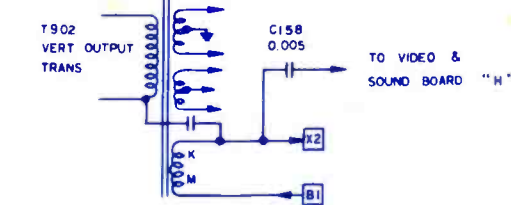
※ ALTERNATE HORIZ. OUTPUT CIRCUIT



※ ALTERNATE FOCUS RECT. CIRCUIT



※ ALTERNATE VERT. OUTPUT CIRCUIT





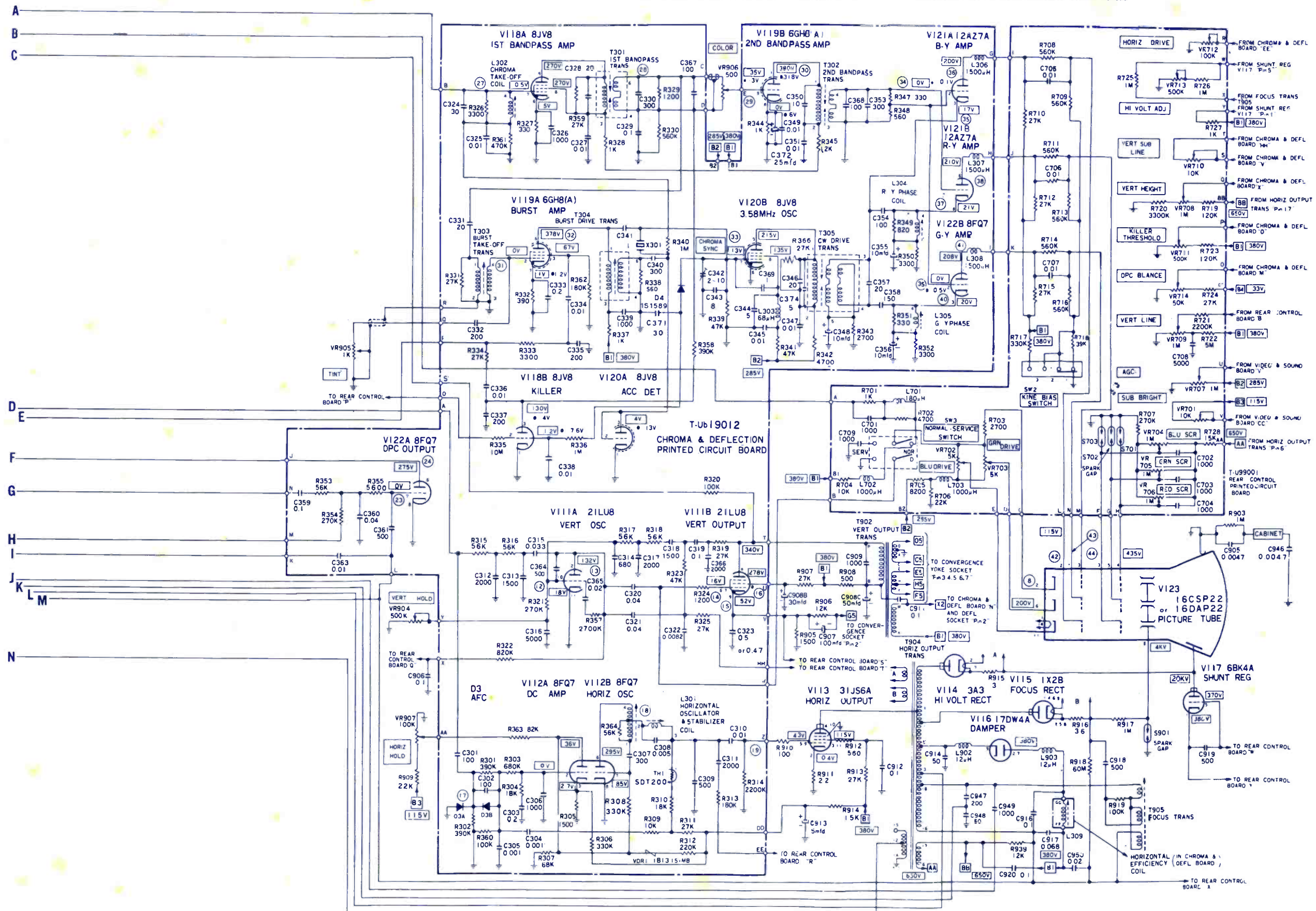
L306, L307, L308 - choke coil 150μH	982023
L309 - horiz lin coil	982015
L501 - convergence coil right R/G vert lines	982035
L502 - convergence coil center horiz blue lines	982038
L503 - convergence coil right R/G vert lines	982036
L901 - delay line coil	981931
L905, L906 - filter coil AC line	981929
L907 - filter choke coil	981920
L909 - degaussing coil	981928

LY11 - detection yoke	981891
T101 - PIF input xformer	981981
T102, T103 1st & 2nd PIF xformer	901983
T104 - 3rd PIF xformer	981984
T105 - 4.5MHz trap coil	981985
T106 - sound IF xformer	981987
T301 - 1st band pass xformer	982017
T302 - 2nd band pass xformer	982018
T303 - burst take-off xformer	982020

1504 - burst drive xformer	982021
T305 - drive xformer	982019
T307 - convergence xformer-R horiz blue	982037
T901 - audio output xformer	981938
T902 - vert output xformer	981939
T904 - horiz output xformer	981924
T905 - focus xformer	981919
T906 - heater xformer	981930
T907 - phase xformer	981918
VR902 - bright control	981964

VK903 - contrast control	981963
VR904 - vert hold control	981964
VR905 - tint control	981962
VR906 - color control	981961
VR907 - horiz hold control	981965
F901 - circuit breaker	981948
X301 - crystal 3.58MHz	982034
D3 - diode AFC	982363
VHF tuner	981893
UHF tuner	982060

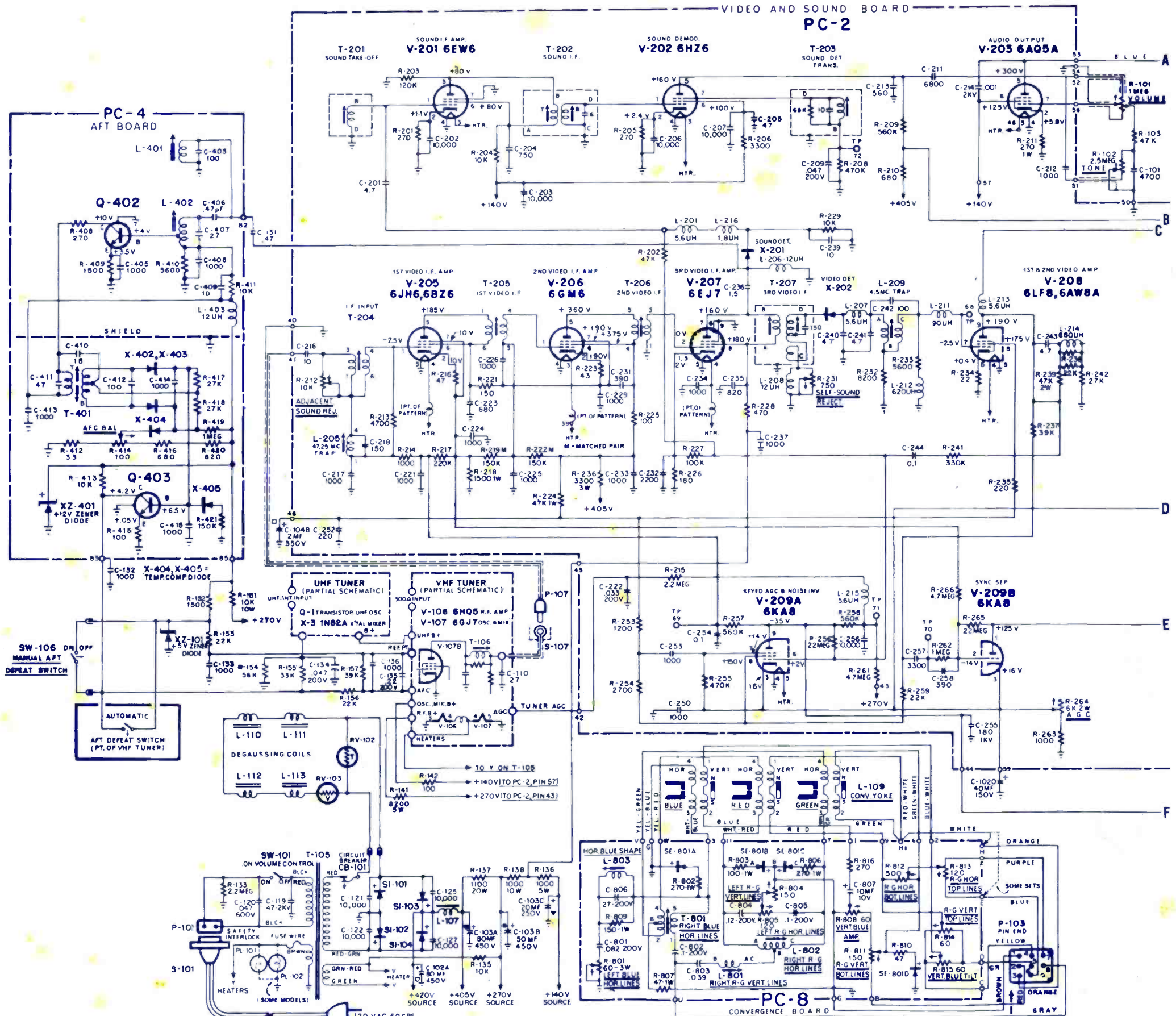
**EMERSON**  
Color TV Model 35P01/35P02





VIDEO AND SOUND BOARD

PC-2



SYMBOL DESCRIPTION EMERSON PART NO.

C102A	capacitor elect 80µf @450v	925686
C102B	cap elect 30µf @450v	925686
C102C	cap elect 20µf @450v	925686
C102D	cap elect 40µf @150v	925686
C103A&B	cap elect 80 50µf @450v	925586
C103C	cap elect 20µf @250v	925586
C103D	cap elect 50µf @50v	925586
C104A	cap elect 80µf @450v	965650
C104B	cap elect 2µf @350v	965650
C104C	cap elect 25µf @25v	965650
C106	cap cer 68pf 10% Tol 4kv	929096
C328	cap dura mica 330pf 5% Tol 500v	915062
C348	cap dura mica 200pf 5% Tol 500v	915065
C373	cap cer 390pf 5% Tol 1.5kv N1500	929106K
R101	volume control 1M ch 120894, 895	390854
R102	tone control 2.5M ex ch 120899	390849
R105	resistor WW 10K 10% Tol 10w	394260
R106	bright control 2.5K ch 120894, 895	390852
R107	cont control 368Ω ex ch 120899	390847
R108	tint control 1.2K ch 120894, 895	390853
R109	color control 500Ω ch 120894, 897, 898	390851
R109	color control 500Ω ch 120895	390903
R111	vert hold cont 750K ex 120899	390848
R113	vert lin con 3.4M	390908
R114	vert size con 100K	390785
R118	resistor WW 13K 10% Tol 7w	394255
R121	resistor high volt 66M 6kv 20% 4W	397176A
R126	horiz hold con 35K ex 120899	390850
R127	color fidelity control 500K ch 120894, 895 only	390900
R137	resistor WW 1.1K 10% Tol 20w	394276
R139	top bot pincushion amp con 15K	390858
R212	adj channel sound rej cont 10K	390789
R264	AGC adj cont 6K 2W	390882
R269	resistor WW 5.6K 10% Tol 4W	394262
R272A&B	dual cont ass'y grn & blu video drive 6K each sect	390881
R324A&B	dual cont ass'y color killer & HV adj 1M & 500K	390880
R364ABC	tri cont ass'y blu/grn/red screen adj 1.5M each	390879
RV102	thermistor part L1106 degauss coil ass'y	397187
RV103	VDR degauss coil ass'y	397186
RV104	volt dependent resistor top bot pincushion CXT	397191
RV301	varistor vert def CXT	397171
L101	choke coil 390µh	708426
L107	filter choke power supply	737057
L205	sound trap 47.25MHz adj channel	708427
L207	peaking coil 5.6µh	705047
L209	sound trap 4.5MHz	708432
L301	chroma take-off coil	708438
L305	reactance coil 3.5MHz	708439
L307A, B	horiz freq sine wave coil	708434
L309	horiz efficiency coil	708462
L310	peaking coil 5.6MHz	708475
T101	audio output xlfomer	734223
T102	horiz output xlfomer w/cen cont	738214
T103	focus adj xlfomer	708461
T104	vert output xlfomer	73207
T105	power xlfomer	730149
R201	sound take-off xlfomer	720558
R202	sound interstage xlfomer	720471
R203	sound quad xlfomer	720472
R204	IF input xlfomer	720474
R205	1st video IF xlfomer	720514
R206	2nd video IF xlfomer	720476
R208	video peaking xlfomer	708474
R301	chroma bandpass xlfomer less metal shield	720515
R302	burst phase xlfomer	720516
R303	osc xlfomer 3.58MHz less metal sh	720517
SW201	video peaking switch DPTT ch 120894, 895	510234
C8101	circuit breaker power supply ckt	808252
DL201	delay line video amp circuit	709011
X202	diode video det	817125
Y301	crystal 3.58MHz osc	817147

NOTE: OCTAL PLUG WITH THE SAME PIN CONNECTIONS USED ON SOME SETS







EMERSON

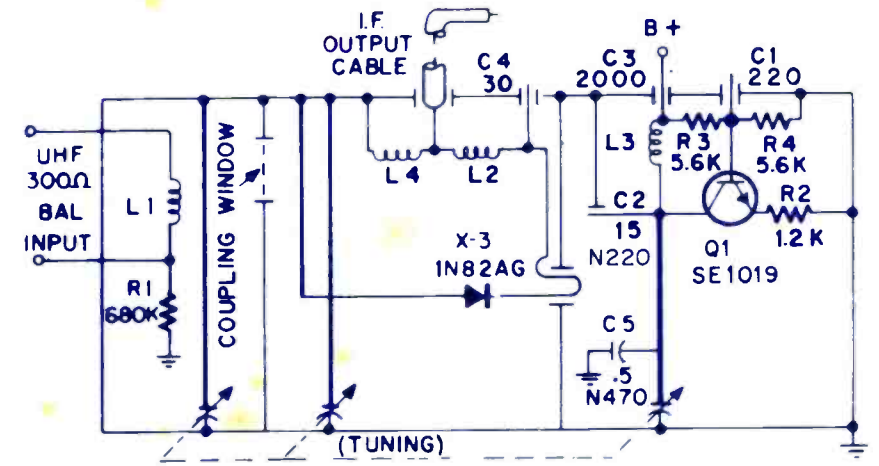
Color TV Chassis  
120883, 884, 890,  
896

ELECTRONIC TECHNICIAN / DEALER **TEKFAK**

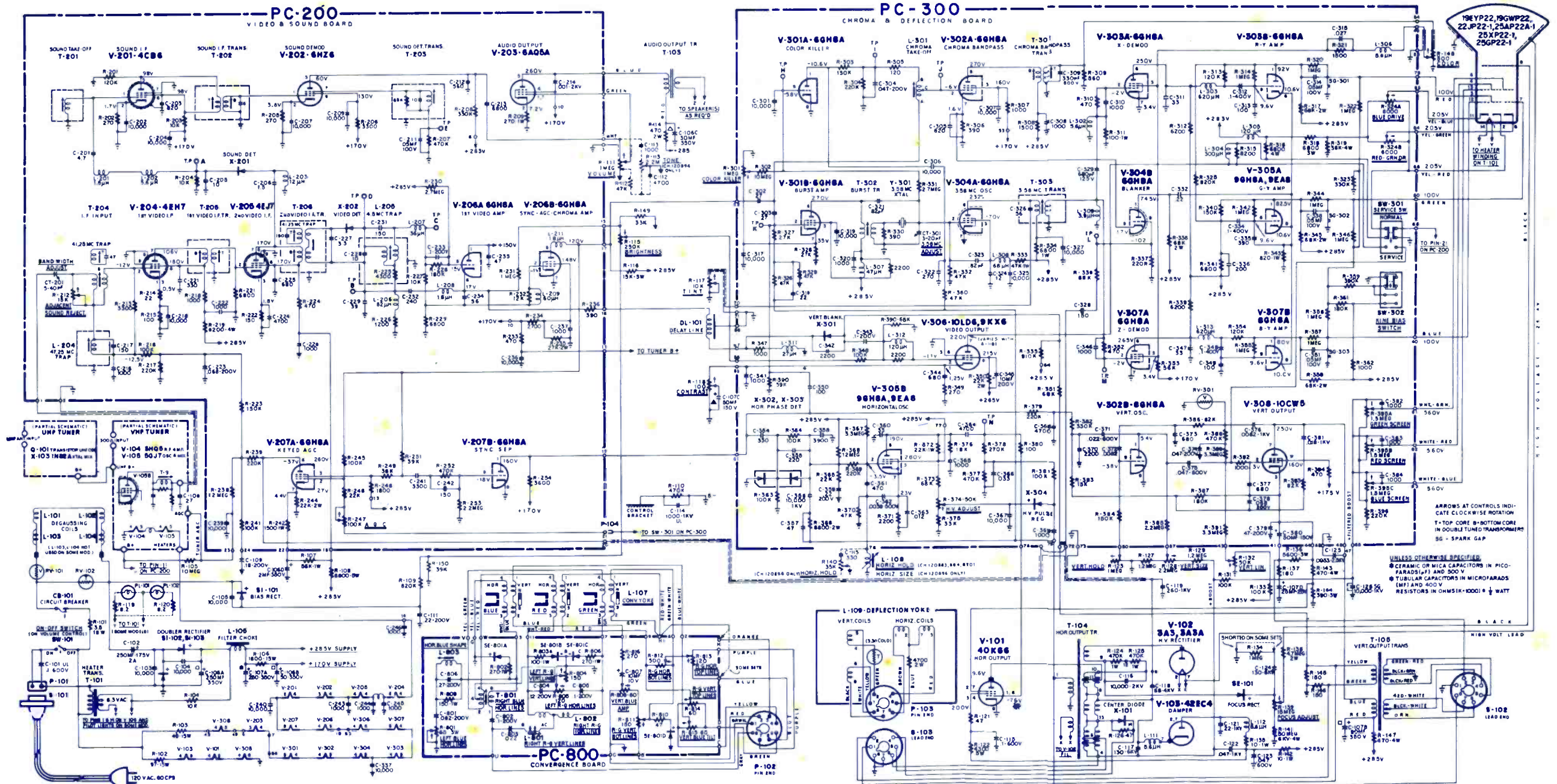
SYMBOL	DESCRIPTION	EMERSON PART NO.
CAPACITOR		
C106	elect, 350v	925688
	(A) 250µf, (B) 50µf	
	(C) 30µf, (D) 2µf	
C107	elect	925689
	(A) 250µf, 350v	
	(B) 80µf, 350v	
	(C) 50µf, 50v	
	(D) 25µf, 25v	
C118	68pf ±10% 4kv cer	929096
C124	130pf ±20% 6kv cer	929094
CT201	5-40pf variable trimmer	900233
R111	1M (ch 120883, 884, 890) vol control	390955
R111	1M (ch 120896) vol control	390921
R115	250K (ch 120883, 884) bright control	390959
R115	250K (ch 120896) bright control	390871
R115	250K (ch 120890) bright control	390937
R117	10K (ch 120883, 884) tint control	390960
R117	10K (ch 120890) tint control	390979
R117	10K (ch 120896) tint control	390976

R118	100Ω (ch 120883, 884) conr control	390956
R118	100Ω (ch 120890) conr control	390981
R118	100Ω (ch 120896) conr control	390977
R123	1M (ch 120883, 884) vert hold control	390957
R123	1M (ch 120890) vert hold control	390980
R123	1M (ch 120896) vert hold control	390866
R128	2.2M vert size control (ch 120883, 884, 890)	390951
R128	2.2M, vert size control (ch 120896)	pt of R115
R132	50K vert lin control (ch 120883, 884, 890)	390952
R132	50K vert lin control (ch 120896)	390873
R139	15M focus control	390950
R140	35K horiz hold control (ch 120896)	390867
R148	500Ω color control (ch 120883, 884)	390989
R148	500Ω color control (ch 120890)	390992
R148	500Ω color control (ch 120896)	390870
R212	15K sound reg control	390954
R247	100K AGC control	390953
R301	1M color killer control	390949
R395	(A) 1.5M grn screen control	390879
	(B) 1.5M red screen control	
	(C) 1.5M blue screen control	
RB12	500Ω 1w r/g horiz bot lines control	390860
RB14	60Ω 1w r/g vert top lines control	390793

RV101	VDR (pt of L101, L104)	397186
RV102	thermistor (pt of L101, L104 deg coil assy)	397187
RV301	varistor (vert deflection ckt)	397171
COILS & XFORMERS		
L105	filter choke, power supply	737059
L107	convergence yoke assy	471654
L108	horiz osc coil	716163
L109	deflection yoke assy (includes P103)	708516
L201	1.8µh choke coil	705049
L204	47.25MHz adjacent channel sound trap	708427
L205	4.5MHz (less shield-see shield assy, ch hdwe) sound trap	708432
L206	82µh, choke coil	708517
L207	36µh, choke coil	708429
L301	chroma take-off coil	708438
L303	620µh, peaking coil	708430
L304	300µh, peaking coil	708531
L312	120µh, peaking coil	708443
L801	rt side r/g vert lines conv adj coil	708436
L803	horiz blue convergence waveshape adj coil	708468
T101	filament xformer V106	730152
T103	audio output xformer	734248
T104	horiz output xformer	738217
T105	vert output xformer	738218
T201	sound take-off xformer	720558
T202	sound interstage xformer	720471
T203	sound quad xformer	720472
T205	1st video IF & 41.25MHz trap	720565
T206	2nd video IF & 41.25MHz trap	720564
T301	chroma band-pass xformer	720563
T302	burst phase xformer	720562
T303	3.58MHz osc xformer	720570
T801	rt side blue horiz lines conv adj xformer	708465
CB101	circuit breaker, power supply	808022
DL101	video amp ckt delay line	709010
X101	horiz centering diode	817120
Y301	3.58MHz osc crystal	817174



SCHEMATIC DIAGRAM,  
UHF TUNER 471755





### AGC CONTROL ADJUSTMENT

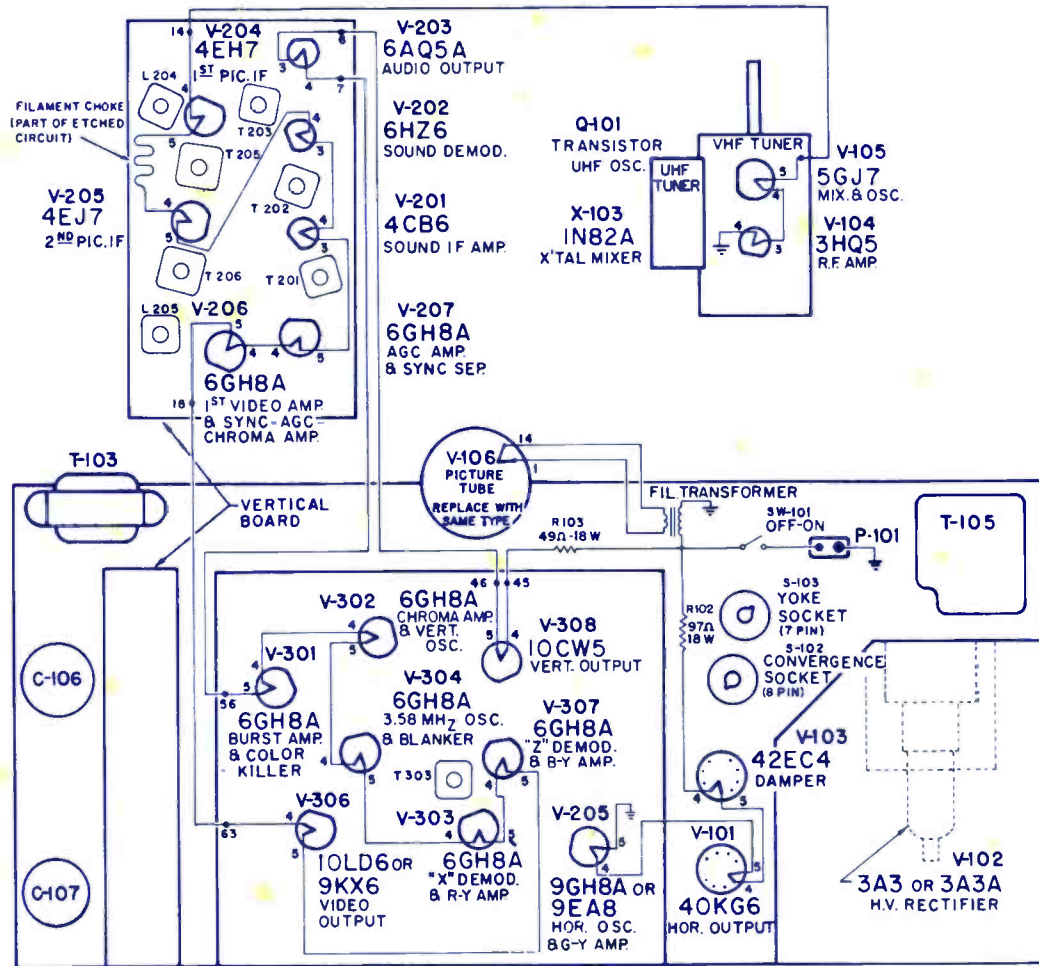
With the receiver tuned to a strong local station, turn the AGC Control clockwise until the picture begins to bend or distort, then counter-clockwise to a point slightly beyond where picture distortion is eliminated. Rotate tuner "off channel" and back to strong local broadcast. The picture should immediately re-appear; if it does not, rotate the AGC Control slightly further in a counter-clockwise direction. For precise adjustment of the AGC, connect an oscilloscope probe to the video detector output (test point TP-C on PC-2) and adjust the control for 4 volts peak-to-peak with the receiver tuned to a strong local broadcast.

### HIGH VOLTAGE ADJUSTMENT

Connect the high-voltage probe of a high impedance (VTVM) meter to anode lead at the CRT. A reading of 24KV (plus or minus 1 KV) should be obtained. If reading obtained is not within plus or minus 1 KV of the nominal 24 KV adjust the high voltage control to obtain 24 KV.

VHF TUNERS  
471754, 471766,  
471780, 471788

EMERSON  
Color TV Chassis 120883,  
884, 890, 896



### TUBE LOCATIONS AND ALIGNMENT POINTS

#### CONDITIONS FOR VOLTAGE READINGS

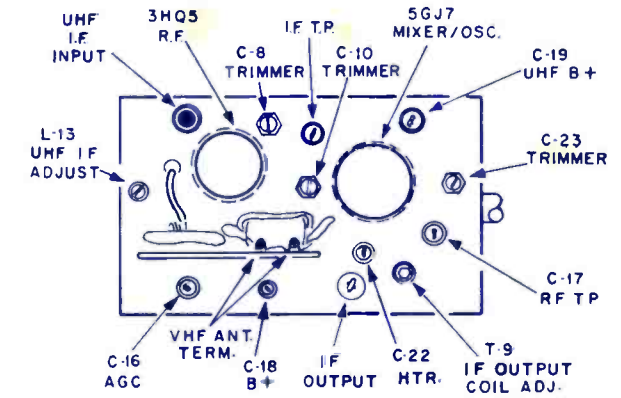
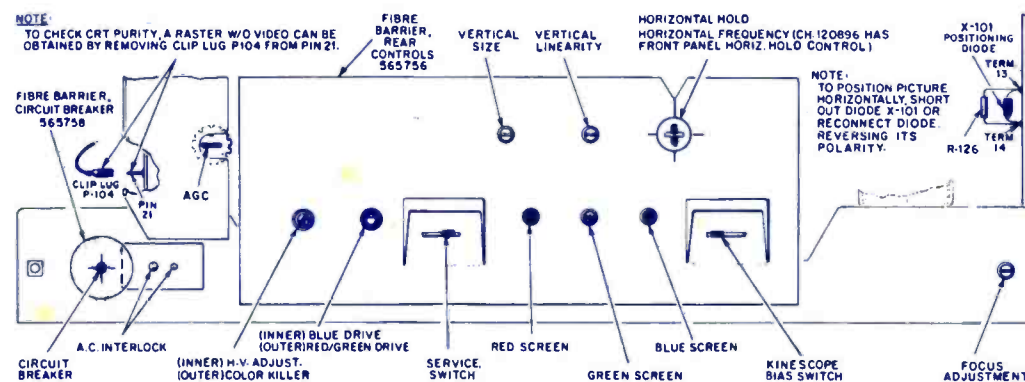
1. Voltages were taken under actual operating conditions with normal picture and sound being received.
2. A.G.C. Voltage developed on I.F. A.G.C. Line at junction of C-217 and R-216 was (-12.5 volts).
3. Input voltage to chassis under test was 120 volts 60 cycle AC.

#### SERVICING PRECAUTIONS

1. Since one side of the AC line is connected to the chassis, an isolation transformer should be used when servicing this set.

2. If an isolation transformer is not available, insert the AC power plug in the proper direction so that no voltage exists between the chassis and the ground side of the AC line.
3. When replacing the chassis make sure that all shields, covers, fish paper barriers, etc., are put back in place. There should be approximately 470 K ohm reading between any exposed metal parts of the cabinet, antenna, etc., and both sides of the AC line plug (disconnect from AC outlet).
4. Do not operate the receiver with the high voltage compartment shield open.
5. Do not remove or handle kinescope unless shatter-proof goggles are worn.

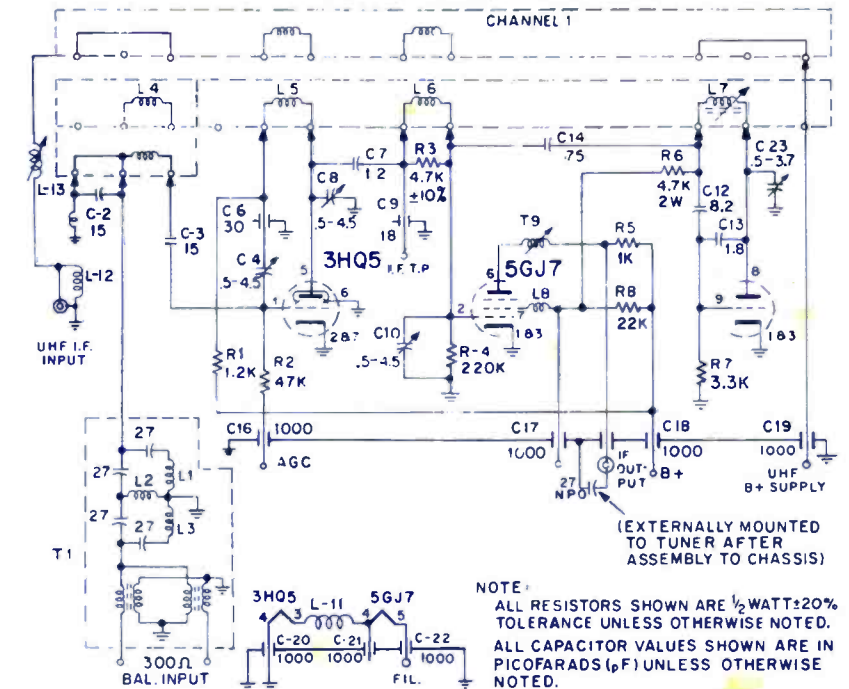
### CHASSIS REAR ADJUSTMENT CONTROLS



### VHF TUNER SERVICE INFORMATION, 471754, 471766, 471780, 471788

TUNER	C-9	C-23	L-12
471754	18pF	.5-3.7	YES
471766	15pF	.5-3	NO
471780	15pF	.5-3	YES
471788	15pF	.5-4.5	YES

### SCHEMATIC DIAGRAM, VHF TUNERS 471754, 471766, 471780, 471788





# GENERAL ELECTRIC

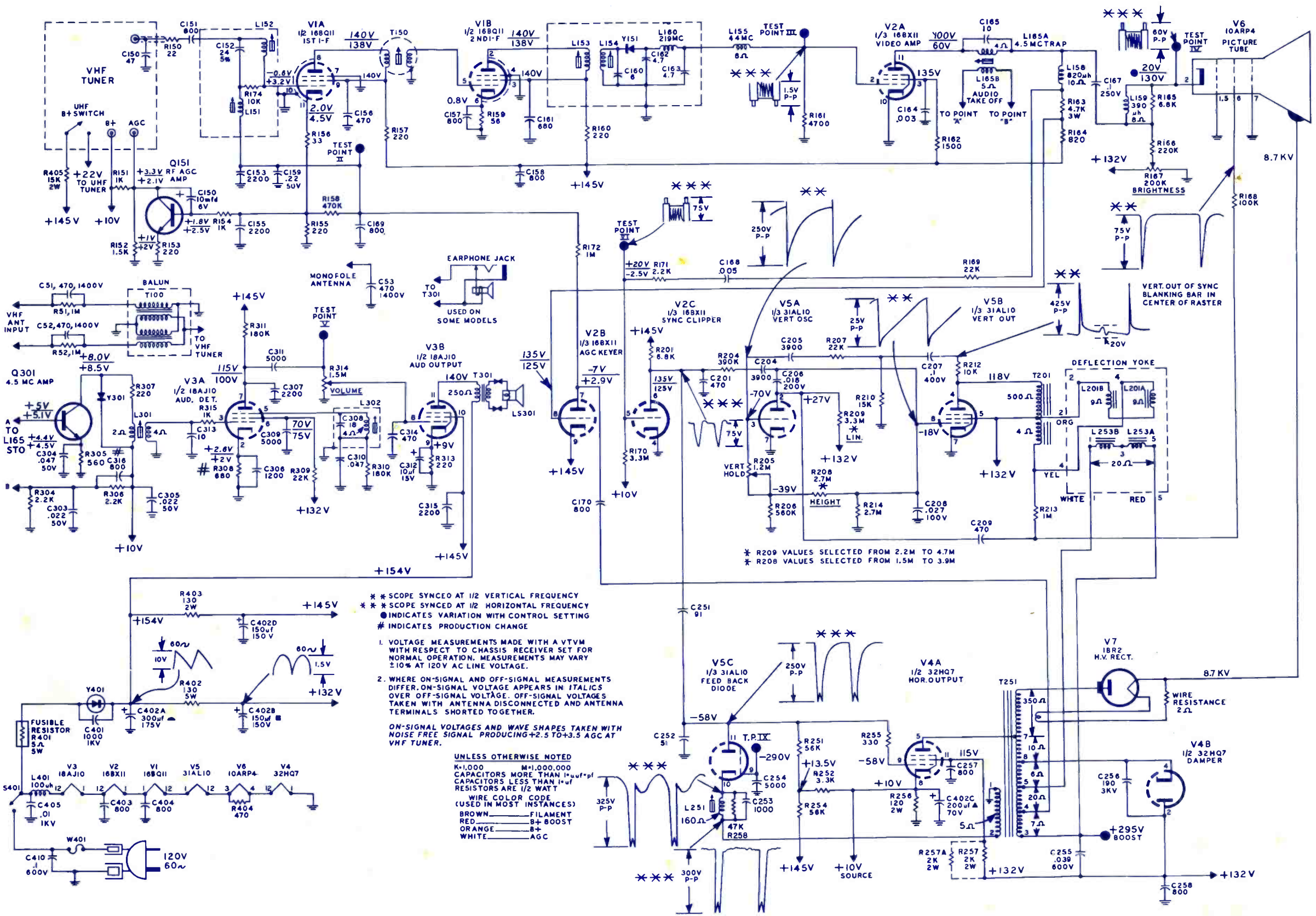
TV Chassis P-1

## ELECTRONIC TECHNICIAN / DEALER **TEKFAK**

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R163	— resistor film 4.7k 10% 3w	ET14X133
R167	— control bright 200K 30%	ES49X20
R205	— control vert hold 1.2M 30%	ES49X18
R256	— resistor 120k 10% WW	ES14X7
R257	— resistor 2k 2w WW	ES14X8
R257A	— resistor 2k 2w WW	ES14X8
R314	— control vol 1.5M 20%	ES49X19
R401	— fusible resistor 5k 5w	ES14X191
R402	— resistor 130k 10% 5w WW	ES14X10
R403	— resistor 130k 10% 2w WW	ES14X9
Q151	— transistor NPN silicon AGC amp	ES15X10
Q301	— transistor NPN silicon 4.5MHz amp	ES15X7

Y151	— diode germanium video detector	ET16X1
Y301	— diode germanium audio limiter	ES16X2
Y401	— diode silicon power rectifier	ES57X2
C402A	— 300µf 175v	ES31X7
C402B	— 150µf 150v	ES31X7
C402C	— 200µf 70v	ES31X7
C402D	— 150µf 150v	ES31X7
C152	— 24pf 5% NPO	ET18X123
C256	— 190pf 3kV	ES18X26
L151	— coil 47.25MHz trap	ES36X753
L152	— coil series link 1st IF grid	ES36X29
L153	— coil video detector (primary)	ES36X757
L154	— coil video detector (secondary)	ES36X587
L155	— coil choke tweet 44MHz	ET36X583

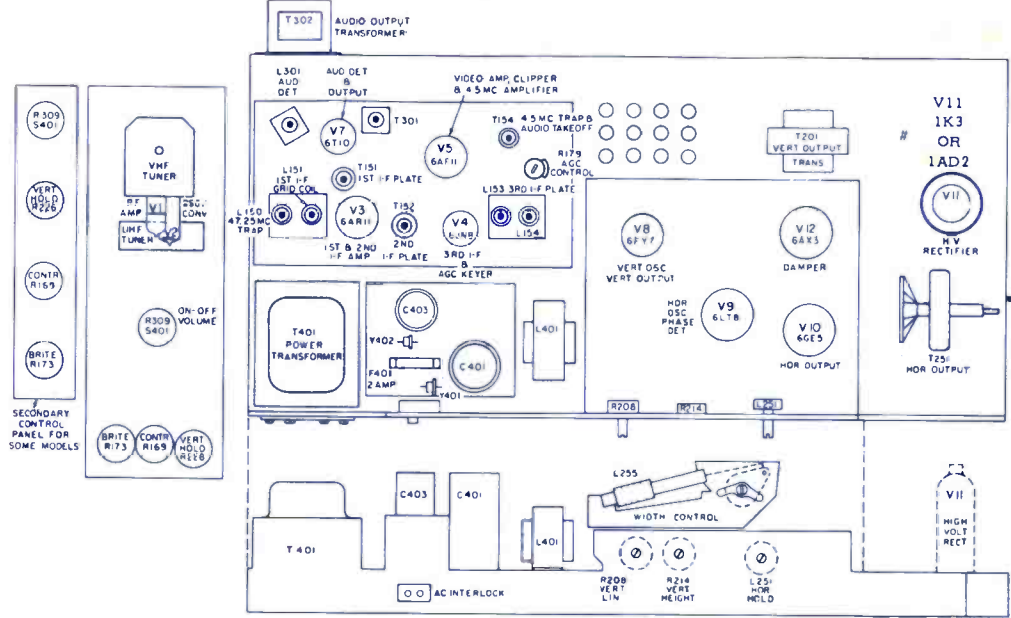
L158	— coil choke 820µh	ES36X25
L159	— coil choke 390µh	ES36X26
L160	— coil choke tweet 219MHz	ES36X72
L165A,B	— coil 4.5MHz trap & STO	ES36X24
L201A,B	— Yoke deflection vert	ES76X48
L253A,B	— yoke deflection horiz	ES35X2
L251	— coil horiz osc w/core	ES36X27
L301	— coil audio interstage	ES36X65
L302	— coil quod w/core	ES36X28
L401	— coil choke filament 100µh	ES51X30
T100	— xformer VHF antenna balun	ES36X23
T150	— xformer video IF	ES64X4
T201	— xformer vert output	ES77X4
T251	— xformer horiz output	ES64X1
T301	— xformer audio output	ES64X1



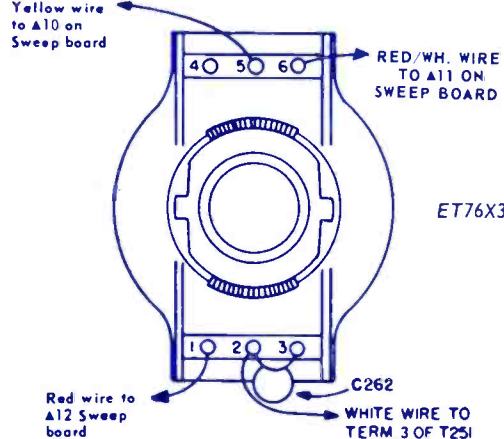
\*\* SCOPE SYNCED AT 1/2 VERTICAL FREQUENCY  
 \*\*\* SCOPE SYNCED AT 1/2 HORIZONTAL FREQUENCY  
 ● INDICATES VARIATION WITH CONTROL SETTING  
 # INDICATES PRODUCTION CHANGE  
 1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120V AC LINE VOLTAGE.  
 2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, ON-SIGNAL VOLTAGE APPEARS IN ITALICS OVER OFF-SIGNAL VOLTAGE. OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED AND ANTENNA TERMINALS SHORTED TOGETHER.  
 ON-SIGNAL VOLTAGES AND WAVE SHAPES TAKEN WITH NOISE FREE SIGNAL PRODUCING +2.5 TO +3.5 AGC AT VHF TUNER.

UNLESS OTHERWISE NOTED  
 K=1,000 M=1,000,000  
 CAPACITORS MORE THAN 1µf µf/pf  
 CAPACITORS LESS THAN 1µf  
 RESISTORS ARE 1/2 WATT  
 WIRE COLOR CODE  
 (USED IN MOST INSTANCES)  
 BROWN — FILAMENT  
 RED — B+ BOOST  
 ORANGE — B+  
 WHITE — AGC

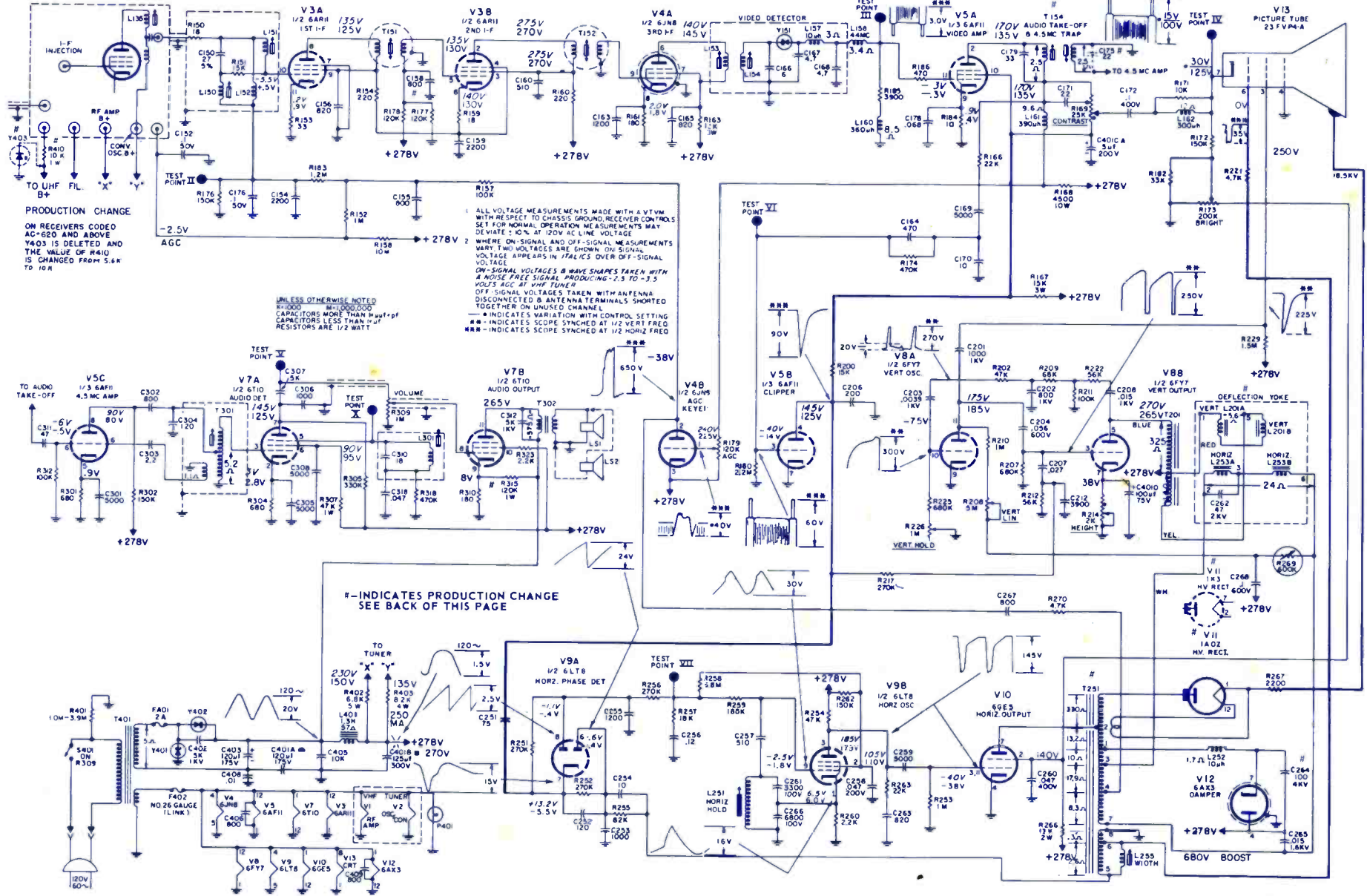




TUBE AND ADJUSTMENT LOCATIONS



ET76X39 YOKE WIRING



PRODUCTION CHANGE  
ON RECEIVERS CODED  
AC-660 AND ABOVE  
Y403 IS DELETED AND  
THE VALUE OF R410  
IS CHANGED FROM 5.6K  
TO 10K

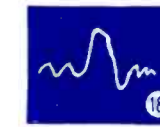
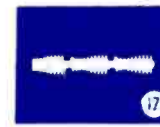
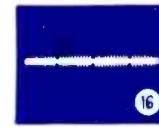
1. ALL VOLTAGE MEASUREMENTS MADE WITH A VTVM  
WITH RESPECT TO CHASSIS GROUND. RECEIVER CONTROLS  
SET FOR NORMAL OPERATION. MEASUREMENTS MAY  
DEVIATE ±10% AT 120V AC LINE VOLTAGE.  
2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS  
VARY TWO VOLTAGES ARE SHOWN. ON-SIGNAL  
VOLTAGE APPEARS IN ITALICS OVER OFF-SIGNAL  
VOLTAGE.  
ON-SIGNAL VOLTAGES & WAVE SHAPES TAKEN WITH  
A NOISE FREE SIGNAL PRODUCING -2.5 TO -3.5  
VOLTS AGC AT VHF TUNER.  
OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA  
DISCONNECTED & ANTENNA TERMINALS SHORTED  
TOGETHER ON UNUSED CHANNEL.  
- - - INDICATES VARIATION WITH CONTROL SETTING  
\*\*\* INDICATES SCOPE SYNCHED AT 1/2 VERT FREQ  
\*\*\* INDICATES SCOPE SYNCHED AT 1/2 HORIZ FREQ

UNLESS OTHERWISE NOTED  
R10000 R#10000000  
CAPACITORS MORE THAN 10µF OF  
CAPACITORS LESS THAN 1µF  
RESISTORS ARE 1/2 WATT

#-INDICATES PRODUCTION CHANGE  
SEE BACK OF THIS PAGE

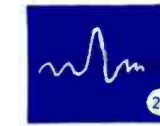
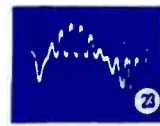
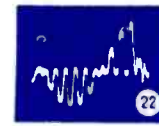
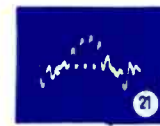
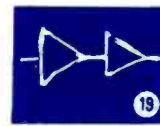
SYMBOL	DESCRIPTION	GEN. ELECTRIC PART NO.
R163	12K 10% 7w glass	ET14X104
R167	15K 10% 3w glass	ET14X145
R168	4.5K 10% 10w WW	COMMON
R269	600K 25% thermistor	ET14X192
R403	8.2K 10% 7w glass	ET14X142
R169	25K w/stop @22K contrast	ET49X518
R173	200K 20% bright	ET49X516
R179	120K 30% AGC	ET49X608
R208	5M 30% vert lin	ET49X519
R214	2K 10% vert height	ET49X604
R226	1M 20% vert hold	ET49X517
R309	1M volume w/push-pull Switch S401	ET49X386
C401A	120µf +100-10% @175v	ET31X237
C401B	125µf +100-10% @300v	
C401C	5µf +100-10% @200v	
C401D	100µf +100-10% @75v	
C257	510pf 5% 500v mica	ET19X86
C264	100pf 10% 4kv N1600 cer	ET18X600
C264	120pf 10% 4kv N1600 cer	ET18X519
L150	47.25MHz trap w/core coil	ET36X742
L151	1st IF grid w/core coil	ET36X682
L152	choke IF coupling coil	ET36X837
L153	3rd IF plate w/core coil	ET36X586
L154	video det secondary coil w/core	ET36X587
L201, 253	deflection yoke w/wires	ET76X51
L201, 253	deflection yoke less centering ring and retainer	ET76X39
L251	horiz osc coil w/core	ET35X51
L252	damper choke coil 10µh 10%	ET36X105
L301	audio det coil w/core	ET36X732
L401	B+ filter 1.2hy reactor	ET63X58
T151	1st IF plate xformer w/core	ET61X158
T152	2nd IF plate xformer w/core	ET61X148
T154	audio take-off & 4.5MHz trap xformer w/cores	ET36X684
T154	audio take-off xformer 4.5MHz trap w/cores	ET36X854
T201	vert output xformer	ET64X99
T251	horiz output coil w/cap & lead	ET77X96
T251	horiz output coil w/cap & lead	ET77X108
T301	4.5MHz interstage coil w/core	ET36X778
T302	audio output xformer	ET64X90
T401	power xformer	ET88X79
	fast bio 2 amp 250v F401 fuse	ET10X41
	horiz raster correction (blue mark) magnet	ET42X44
	tuner UHF	ET85X54
	UHF tuner (replace w/ET85X54)	ET85X57
	VHF tuner	ET86X267



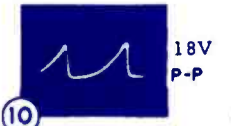
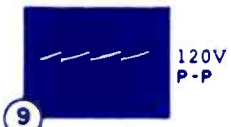
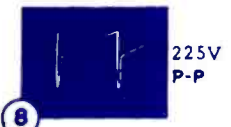
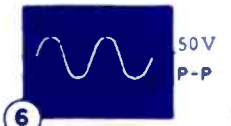
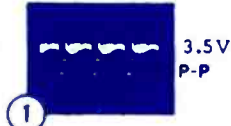


**CHROMA WAVEFORMS**

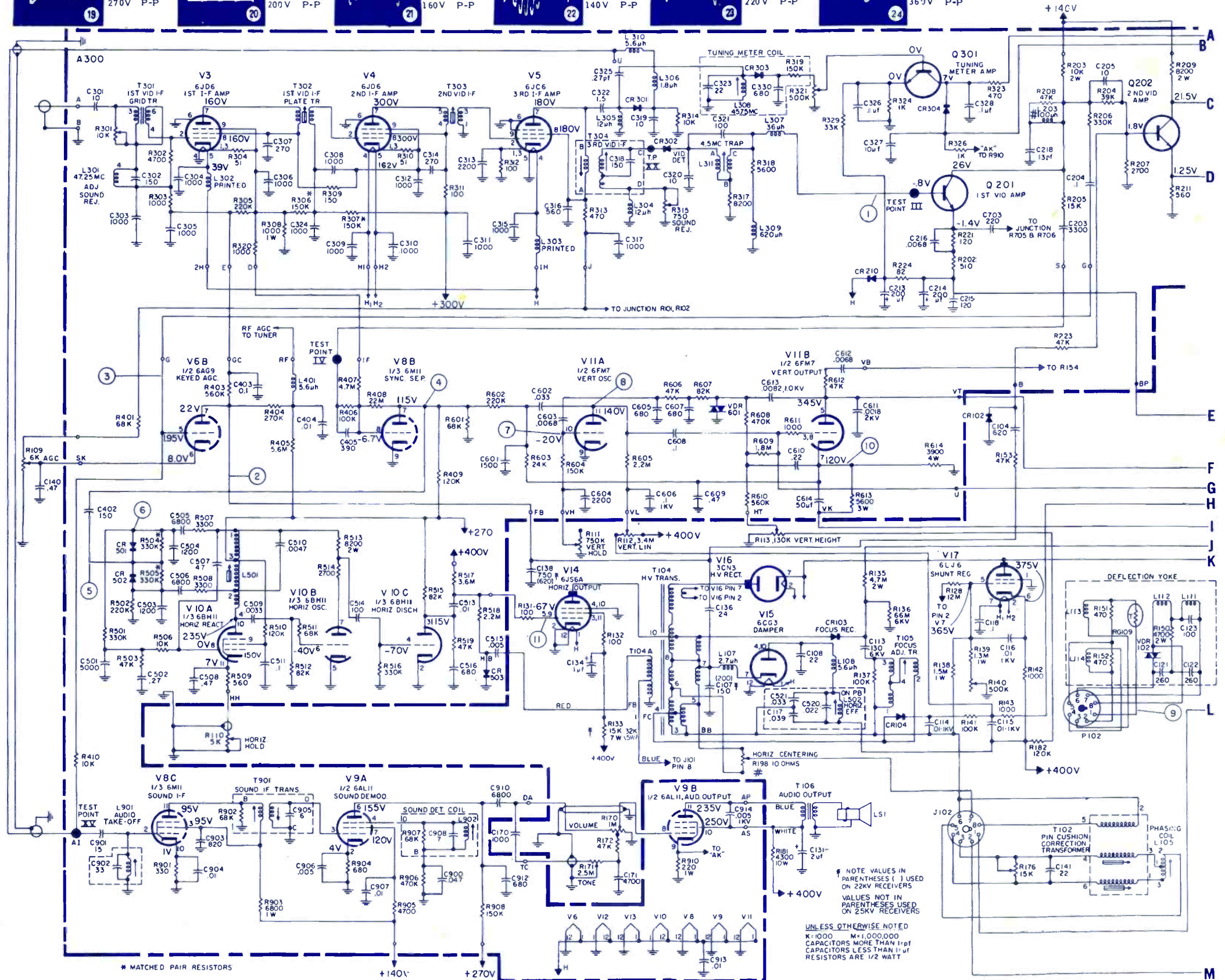
NOTE: CHROMA WAVEFORM TESTS PERFORMED WITH STRONG COLOR BAR PATTERN AND R115 AT 25% OF RANGE. USE LOW CAPACITY PROBE (2μf.) AND WIDE BAND SCOPE TO OBSERVE WAVEFORMS AND VOLTAGES



**MISCELLANEOUS WAVEFORMS**



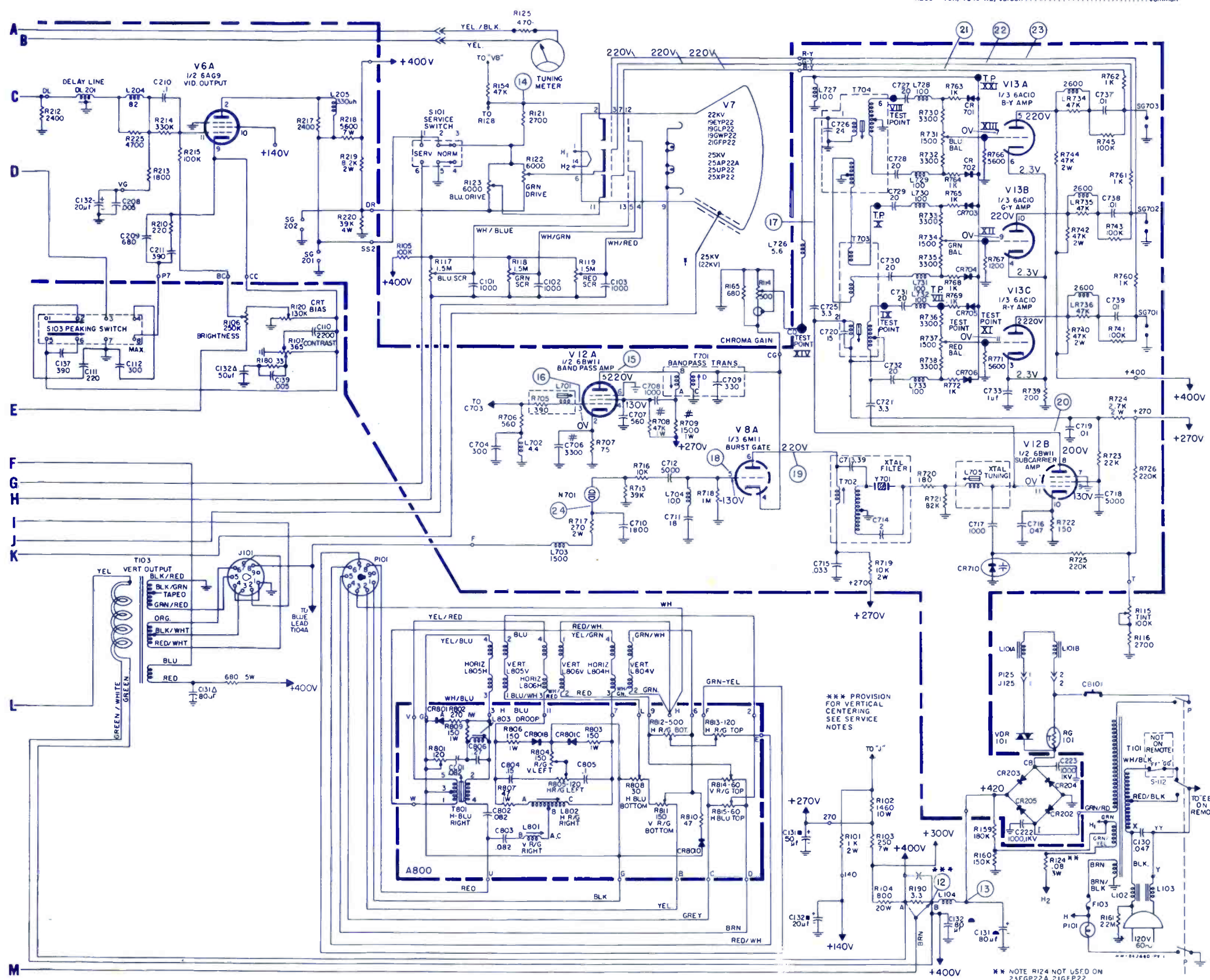
BALLOONS ① ②, ETC., INDICATE POINTS OF OBSERVATION OF THE WAVEFORMS.



\* NOTE VALUES IN PARENTHESES ( ) USED ON 25KV RECEIVERS  
VALUES NOT IN PARENTHESES USED ON 25KV RECEIVERS

UNLESS OTHERWISE NOTED  
K=1000 M=1,000,000  
CAPACITORS MORE THAN 1μf  
CAPACITORS LESS THAN 1μf  
RESISTORS ARE 1/2 WATT





RESISTORS

RG101	— 120Ω cold, thermistor	ET14X221
VDR101	— varistor	ET14X196
R101	— 1K, 10%, 3w, metal film	ET14X176
VDR102	— 1ma, 175v, ±15%, varistor	ET14X215
R102	— 1.46K 10% 10w metal film	ET14X210
R103	— 250Ω 10% 10w WW	common
R104	— 800Ω 10% 20w WW 23" chassis only	common
RG109	— 3.8Ω @25°C -424Ω @104°C thermistor	ET14X147
R124	— 0.8Ω 10% 3w WW	ET14X209
R130	— 680Ω 10% 5w WW	common
R136	— 66M 20% 6kV	ET14X186
R181	— 4.3K 10% 10w WW (Allied 26U123C)	common
R203	— 10K, 10% w2, carbon	common

R209	— 8.2K 10% 5w WW	common
R218	— 5.6K 10% 7w metal film	ET14X116
R220	— 39K, 10% 5w WW	common
VDR601	— 1.48kV 15% 10ma, varistor	ET14X177
CONTROLS		
P106	— 250K 20% bright	ET49X579
R107	— 365Ω 20% contrast	ET49X598
R109	— 6K 10% 2w AGC	ET49X435
R110	— 5K 30% horiz hold	ET49X576
R111	— 750K 30% vert hold	ET49X606
R113	— 130K 30% height	ET49X598
R114	— 500Ω 20% color	ET49X614
R117	— 1.5M blue screen	ET49X606
R120	— 130K 30% CRT bias	ET49X617
R122	— 6K 20% grn drive	ET49X437
R140	— 500K 30% HV adjust	ET49X648
R170	— 1M val, w/push-push SPDT	ET49X646
S102	— AC switch, for insta-view sets	ET49X646
S102	— AC switch, for non-Insta view sets	ET49X486
R171	— 2.5M 30% tone (tone not wired on some models)	ET49X354
R198	— 10Ω 10% height centering	ET49X557
R301	— 10K, sound rejection	ET49X571
R315	— 750Ω sound rejection	ET49X607
R321	— 500K 30% tuning meter amplitude	ET49X359
R731	— 1.5K 30% chroma balance	ET49X607
R801	— 120Ω horiz blue left	ET49X359
R804	— 150Ω vert red/grn left	ET49X605
R808	— 300Ω vert blue amplitude	ET49X358
R812	— 500Ω vert red/grn differential amplitude	ET49X358
R814	— 60Ω vert red/grn master tilt	ET49X358
CAPACITORS		
C101	— 1000pF, GMV, 1.4kV, HiK	ET22X58
C107	— 160pF 10% 6kV N1500 23" sets	ET18X601
C107	— 200pF 10% 5kV N1500 for 18" and 20" chassis	ET18X614
C113	— 30pF 20% 6kV N2200	ET18X458
C121	— C122 — 260pF 10% 2.5kV N3300	ET18X595
C123	— 100pF 10% 4kV N1400	ET18X600
C136	— 24pF, 10% 4kV N750	ET18X586
C208	— 500pF, 20% 1.4kV HiK	ET22X180
C404	— 0.1μF 10% 500V stab HiK	ET22X50
CAPACITORS-ELECT		
C131	— 80μF — 10+50% 450V	ET31X283
□ 50μF — 10+50% 450V		
Δ 80μF — 10+50% 450V		
— 2μF — 10+100% 450V		
C132	— 80μF — 10+50% 450V	ET31X270
□ 20μF — 10+100% 275V		
Δ 50μF — 10+150% 50V		
— 20μF — 10+150% 50V		
C327	— 10μF +10+100% 6V	ET31X238
RECTIFIERS-SOLID STATE		
CR102	— silicon blanking rectifier	ET57X30
CR103	— selenium, 3ma focus rectifier	ET57X32
CR104	— selenium, 2ma boost rectifier	ET57X31
CR210	— silicon, bias, rectifier	ET57X35
CR301, CR302	— silicon, sound & video det diodes, rectifier	ET16X1
CR303	— silicon, 45.75MHz tuning meter det. rectifier	ET16X20
CR304	— silicon, damper, rectifier	ET16X11
CR501, CR502	— silicon, horiz, rectifier phase det	ET16X11
CR701	— chroma det. rectifier	ET16X19
CR710	— varactor-tint	ET30X87
CR801	— selenium 40ma, rectifier	ET57X38
L102, L103	— dual line filter, coil	ET36X856
L105	— pin cushion phasing, coil	ET36X836
L107	— peaking, 2.7μH 10%	ET36X804
L108	— peaking, 5.6μH, 10%	ET36X536
L111, 112, 113, 114	— deflection, yoke	ET76X47
LD201	— delay line	ET36X556
L203	— choke, 180μH, 7% EP, coil	ET36X826
L203	— choke, 100μH, 7%, LP, coil	ET36X433
L301	— 47.25MHz trap, coil	ET36X540
L305	— peaking, 12μH, coil	ET36X546
L306	— peaking, 1.8μH, 7%, coil	ET36X541
L308	— 45.75MHz, tuning meter bandpass	ET36X847
L501	— horiz osc, coil	ET36X727
L502	— horiz efficiency, coil	ET36X640
L701	— chroma input, 100μH, coil	ET36X795
L702	— choke, 4.3μH, coil	ET36X796
L703	— choke, 1500μH, 7%, coil	ET36X797
L705	— crystal tuning, coil	ET36X798
L734, 735, 736	— peaking, 2600μH, coil	ET36X799
L801	— right vert red/grn, coil	ET36X787
L802	— right horiz, red/grn coil	ET36X820
L803	— blue phasing (blue droop) coil	ET36X789
L901	— sound take-off, coil	ET36X793
L902	— sound det, coil	ET56X61
T101	— power, xformer	ET88X104
T102	— pin cushion correction-xformer	ET51X229
T103	— vert output, xformer	ET64X116
T104	— horiz output w/horiz centering for 23" chassis, xformer coil	ET77X106
T104	— horiz output late production without/horiz centering for 23" chassis, xformer coil	ET77X102
T104	— horiz output without horiz centering for 18" & 20" chassis, xformer coil	ET77X110
T104	— horiz output w/horiz centering for 18" & 20" chassis xformer coil	ET77X111
T105	— focus, coil	ET36X710
T106	— audio output	ET64X97
T301	— 1st IF grid, xformer	ET61X125
T302	— 1st IF plate, xformer	ET61X179
T303	— 2nd IF plate, xformer	ET61X180
T304	— 3rd IF plate, xformer	ET61X142
T701	— chroma bandpass, xformer	ET61X140
T703	— xformer-R-Y	ET61X176
T901	— 4.5MHz sound IF, xformer	ET61X164
MISCELLANEOUS		
neon glow type bulb, NE-83/50h, N701		ET41X6
1.2a CB101 circuit breaker		ET10X54
tuning indicator, meter		ET41X48
NPN silicon, 1st video amp Q201 transistor		ET15X34
NPN silicon, 2nd video amp Q202 transistor		ET15X27
NPN silicon, tuning meter Q301, transistor		ET15X10
VHF, tuner, 13-position triode		ET86X263
UHF, tuner, solid state		ET85X54

\*\*\* NOTE R124 NOT USED ON 23GP22A, 21GF22



**GENERAL ELECTRIC**  
TV Chassis AD

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

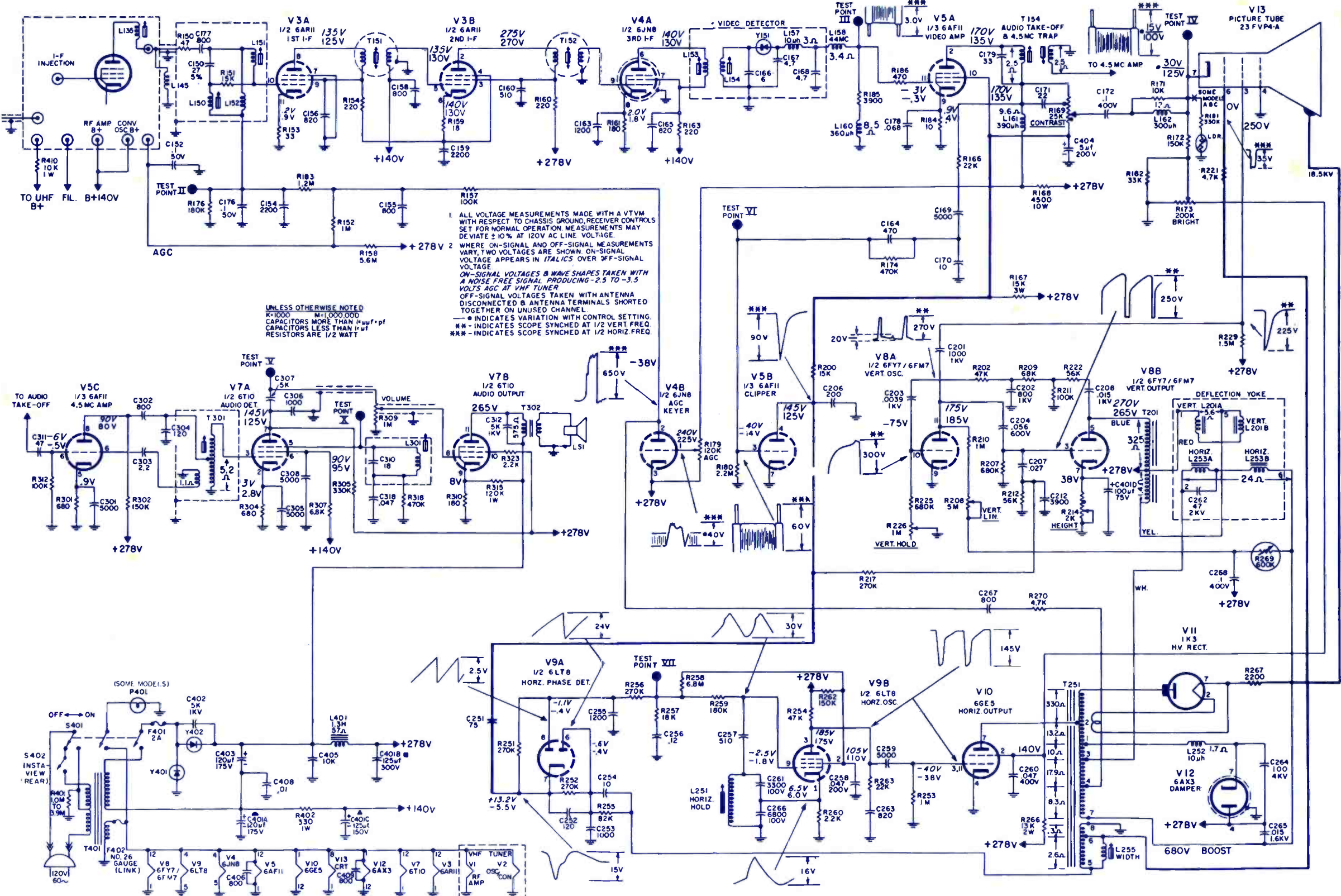
SYMBOL	DESCRIPTION	GE PART NO.
	RESISTORS (special)	
LDR	- 300K @2c, 40%, light dependent resistor, Res	ET41X51
R167	- 15K, 10% 3w, glass	ET14X145

R168	- 4.5K, 10% 10w, WW	Common
R269	- 600K, 25%, thermistor	ET14X192
CONTROLS		
R169	- 25K, w/stop @22K, contrast	ET49X518
R173	- 200K, 20% bright	ET49X516

R179	- 120K, 30% AGC	ET49X608
R208	- 5M 30% vert lin.	ET49X519
R214	- 2K 10% height	ET49X604
R226	- 1M 20% vert hold	ET49X517
R309	- 1M volume with S401 push-push switch	ET49X645
CAPACITORS (ELECT)		
C401A	- 120µf + 100-10% @175v	
C401B	- 125µf + 100-10% @300v	
C401C	- 125µf + 100-10% @150v	ET31X290
C401D	- 100µf + 100-10% @75v	
C403	- 120µf + 100-10% @175v	ET31X205
C404	- 5µf + 100-10% @200v	ET31X291
C154	- 2200pf 20% 500v semi stab HiK, cer	ET22X129
C177	- 800pf 20% 500v semi stab HiK, cer	ET22X80
C257	- 510pf 5% 500v mica	ET19X86
C261	- .0033µf 10% 500v poly	ET25X51
C262	- 47pf 10% 2kv N2200 cer	ET18X459
C264	- 100pf 10% 4kv N1600 cer	ET18X600

C266	- .0068µf 10% 100v poly	ET25X59
C306	- 1000pf 20% 500v semi stab HiK, cer	ET22X117
C312	- 5000pf GMV 1kv semi HiK cer	ET22X165
L145	- choke, converter plate, coil	ET36X739
L150	- 47.25MHz trap w/core, coil	ET36X742
L151	- 1st IF grid, w/core, coil	ET36X682
L152	- choke, IF coupling	ET36X760
L153	- 3rd IF plate, w/core, coil	ET36X586
L154	- video det, secondary, coil w/core	ET36X587
L157	- choke, 10µh, coil	ET36X420
L158	- choke, 36.2µh, coil	ET36X583
L160	- choke, 360µh, 7%, coil	ET36X717
L161	- choke, 390µh, 7%, coil	ET36X264
L162	- choke, 300µh, 7%, coil	ET36X375
L201, 253	- deflection yoke	ET36X339
L251	- horiz oscillator	ET35X51
L252	- damper choke, 10µh, 10%, coil	ET36X105
L301	- audio det, w/core, coil	ET36X732

L401	- 1.2 hen filter B+ reactor	ET63X58
T151	- 1st IF plate, xformer w/core	ET61X158
T152	- 2nd IF plate w/core, xformer	ET61X148
T154	- audio take-off & 4.5MHz trap w/cores xformer	ET36X854
T201	- vert output, xformer	ET64X99
T251	- horiz output w/cap, and lead, coil	ET77X108
T301	- 4.5MHz interstage w/core coil	ET36X778
T302	- audio, output, xformer	ET64X90
T401	- power, xformer	ET88X102
MISCELLANEOUS		
	pilot light, bulb GE159	ET41X40
	silicon, power rectifier, Y40, Y401, 402, diode	ET57X30
	video det Y151, diode	ET16X1
	fast blo, 2a 250v, fuse	ET10X41
	4a, AC SPST 5-402, insto view, switch	ET39X40
	VHF, tuner, manual automatic fine tune	ET86X261
	VHF, tuner, manual conventional fine tune	ET86X262
	non-resistive, VII filament wire lead	ET65X31

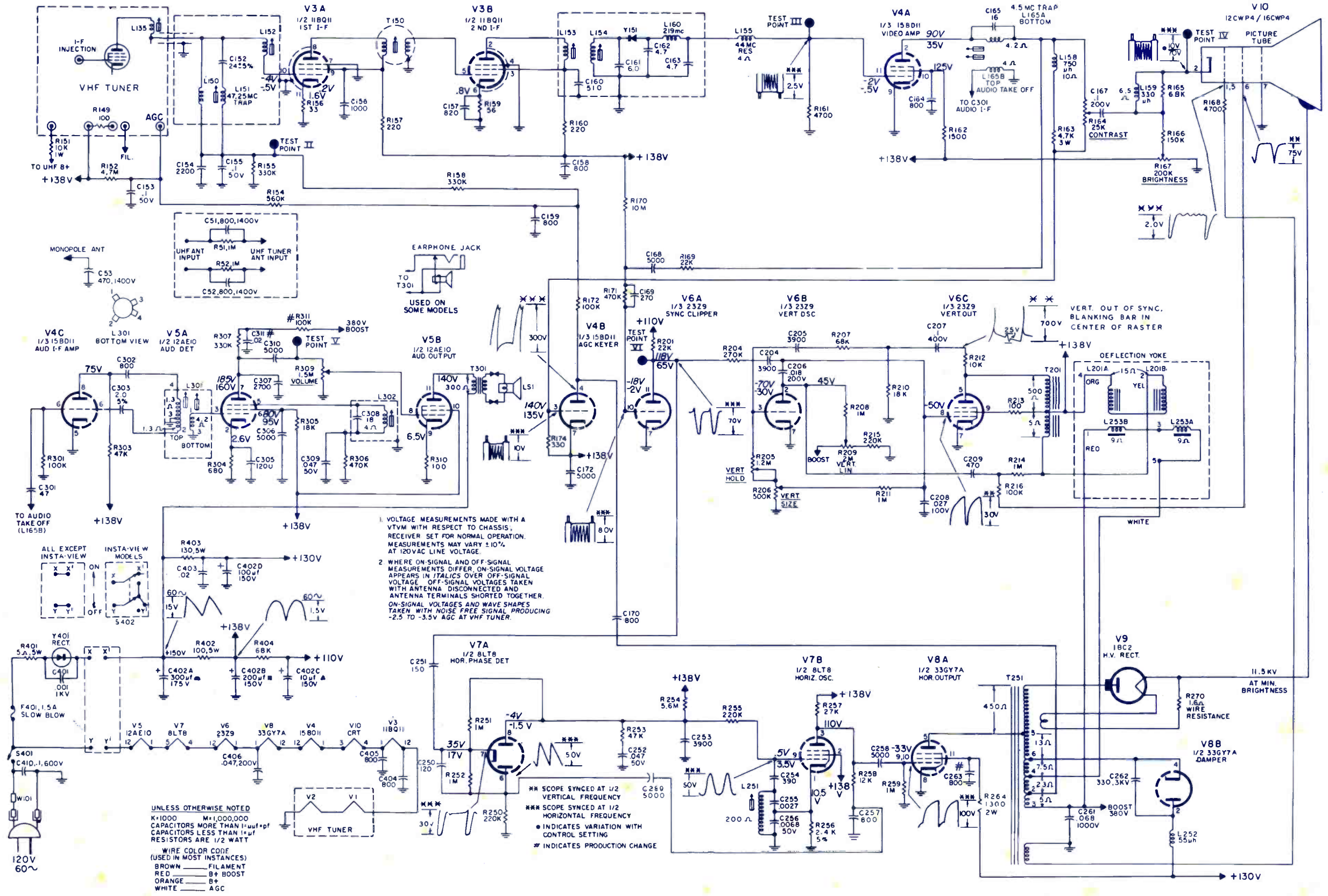




SYMBOL	DESCRIPTION	GENERAL PART NO.
	disc cer 10% 500v unless noted otherwise	
C152	24pf 5% NPO	ET18X123
C261	0.068µf, 20% 1kv My	E525X1
C262	330pf 3kv	E518X13
C303	2.0pf 5%	ET21X19
C402A,B,C,D	elect capacitors	E531X254
	(A) 300µf, 175v	
	(B) 200µf, 150v	
	(C) 10µf, 150v	
	(D) 100µf, 150v	
R163	4.7K, 3w, 10% film	ET14X133
R264	1.3K, 2w, 10% ww	COMMON

R401	5Ω 5w, 10% WW	COMMON
R402	100Ω 1/2, 5w, 10% WW	COMMON
R403	130Ω 1/2, 5w, 10% WW	COMMON
	triple control	E549X2
R205	1.2M, vert hold	
R206	500K, height	
R209	2M, vert lin	
	triple control	E549X3
R164	25K, contrast	
R167	200K, bright	
R309	1.5M, vol w/5401	
L150	IF link choke coil	E536X816
L151	47.25MHz trap coil	E536X3
L152	series link, 1st IF grid coil	E536X754
L153	video det (primary) coil	E536X757

L154	video det (secondary) coil	ET30A307
L155	36.2µh, 44MHz res coil, choke	ET36X583
L158	750µh, 7% choke coil	ET36X376
L159	330µh, choke coil	E536X5
L160	1.8µh, choke coil	E536X722
L165	4.5MHz trap, sound take-off coil	E536X4
L201A,B	21mm deflection toroidal yoke	E576X48
L251	horiz oscillator coil	ET35X51
L252	55µh choke, damper coil	E536X6
L301	4.5MHz audio interstage coil	E561X1
L302	quod coil	E536X665
T150	video IF xformer	E561X163
T201	vert output, xformer	E564X111
T251	horiz output, xformer	E577X1
T301	audio output, xformer	E564X1



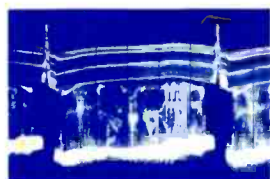








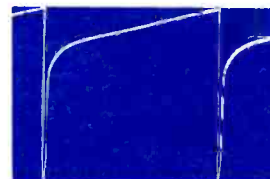
TP III  
1/4 VERT. RATE ① 3.2VPP



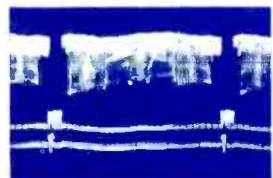
TP IV  
1/4 VERT. RATE ② 175VPP



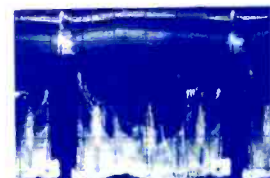
V9A, PIN 2  
1/4 VERT. RATE ⑨ 120VPP



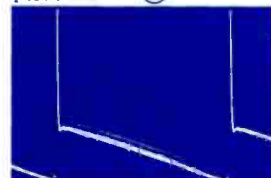
V9B, PIN 8  
1/4 VERT. RATE ⑩ 110VPP



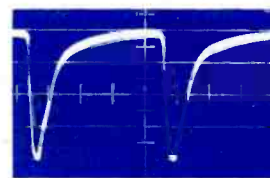
TP V  
1/4 VERT. RATE ③ 2.5VPP



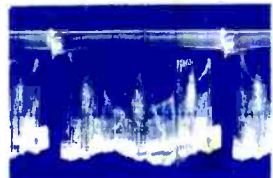
V6C, PIN 2  
1/4 VERT. RATE ④ 55VPP



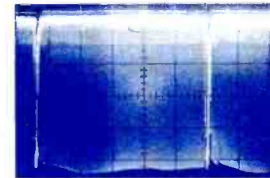
V9B, PIN 5  
1/4 VERT. RATE ⑪ 1100VPP



V10A, PIN 7  
1/4 HOR. RATE ⑫ 28VPP



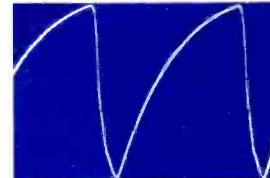
TP XX  
1/4 VERT. RATE ⑤ 55VPP



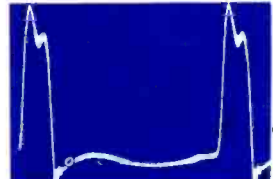
TP XXIII  
1/4 VERT. RATE ⑥ 70VPP



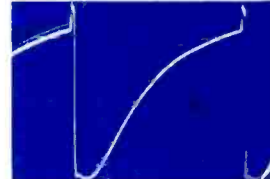
V10A, PIN 8  
1/4 HOR. RATE ⑬ 5VPP



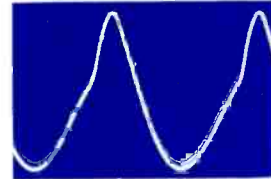
V10A, PIN 6  
1/4 HOR. RATE ⑭ 38VPP



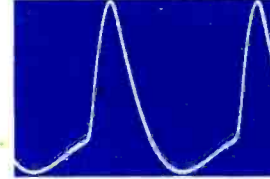
V7B, PIN 7  
1/4 HOR. RATE ⑦ 550VPP



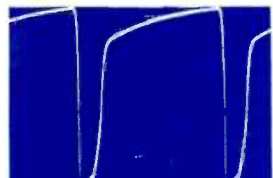
V9A, PIN 3  
1/4 VERT. RATE ⑧ 150VPP



V10B, PIN 9  
1/4 HOR. RATE ⑮ 50VPP



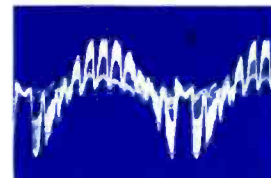
V10B, PIN 1  
1/4 HOR. RATE ⑯ 27VPP



TP XXII  
1/4 HOR. RATE ⑰ 225VPP



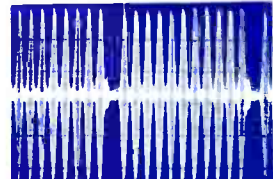
R271 - R269  
1/4 HOR. RATE ⑱ 1000VPP



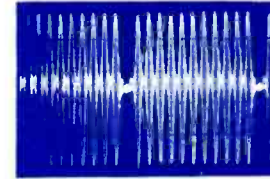
TP XIV  
1/4 HOR. RATE ⑳ 120VPP

WAVEFORMS ⑱ THRU ⑳ TAKEN WITH KEYED RAINBOW GENERATOR CONNECTED TO ANTENNA TERMINALS. ALL OTHER WAVEFORMS TAKEN WITH MONOCHROME SIGNAL.

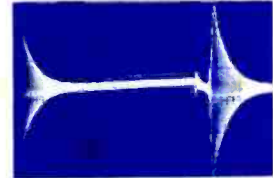
CIRCLED NUMBERS INDICATE POINTS ON SCHEMATIC DIAGRAM WHERE WAVEFORM IS TAKEN.



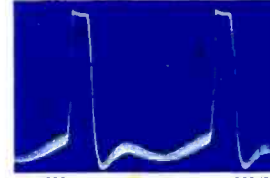
TP VI  
1/4 HOR. RATE ⑲ 10VPP



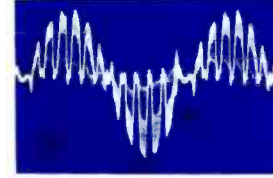
TP VII  
1/4 HOR. RATE ⑳ 50VPP



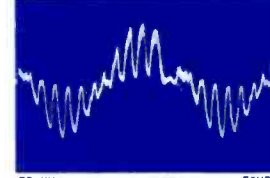
V7A, PIN 3  
1/4 HOR. RATE ㉑ 50VPP



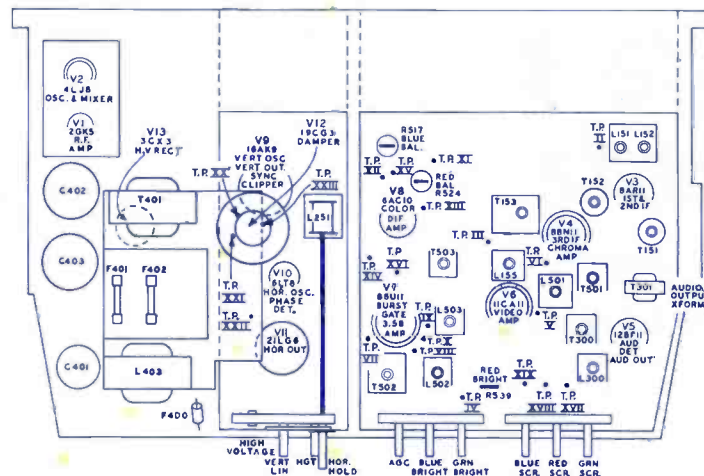
TP VIII  
1/4 HOR. RATE ㉒ 280VPP



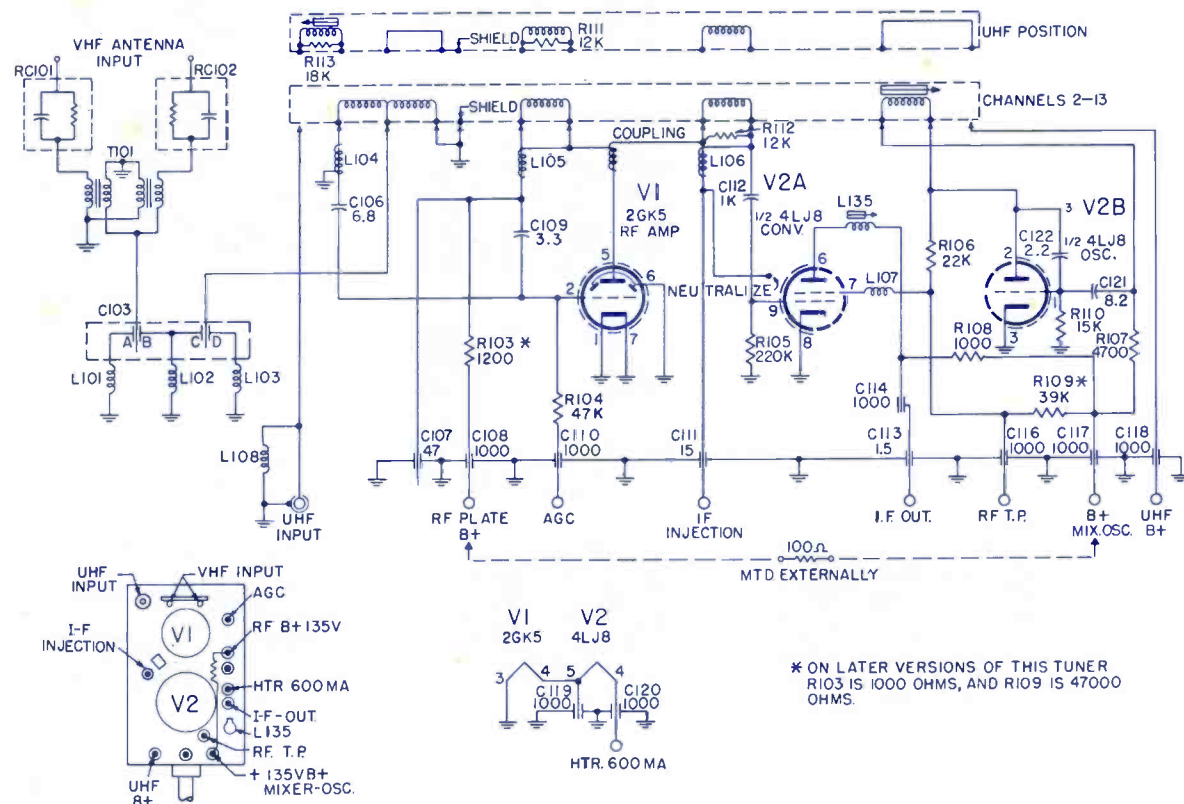
TP XVI  
1/4 HOR. RATE ㉓ 125VPP



TP XV  
1/4 HOR. RATE ㉔ 70VPP







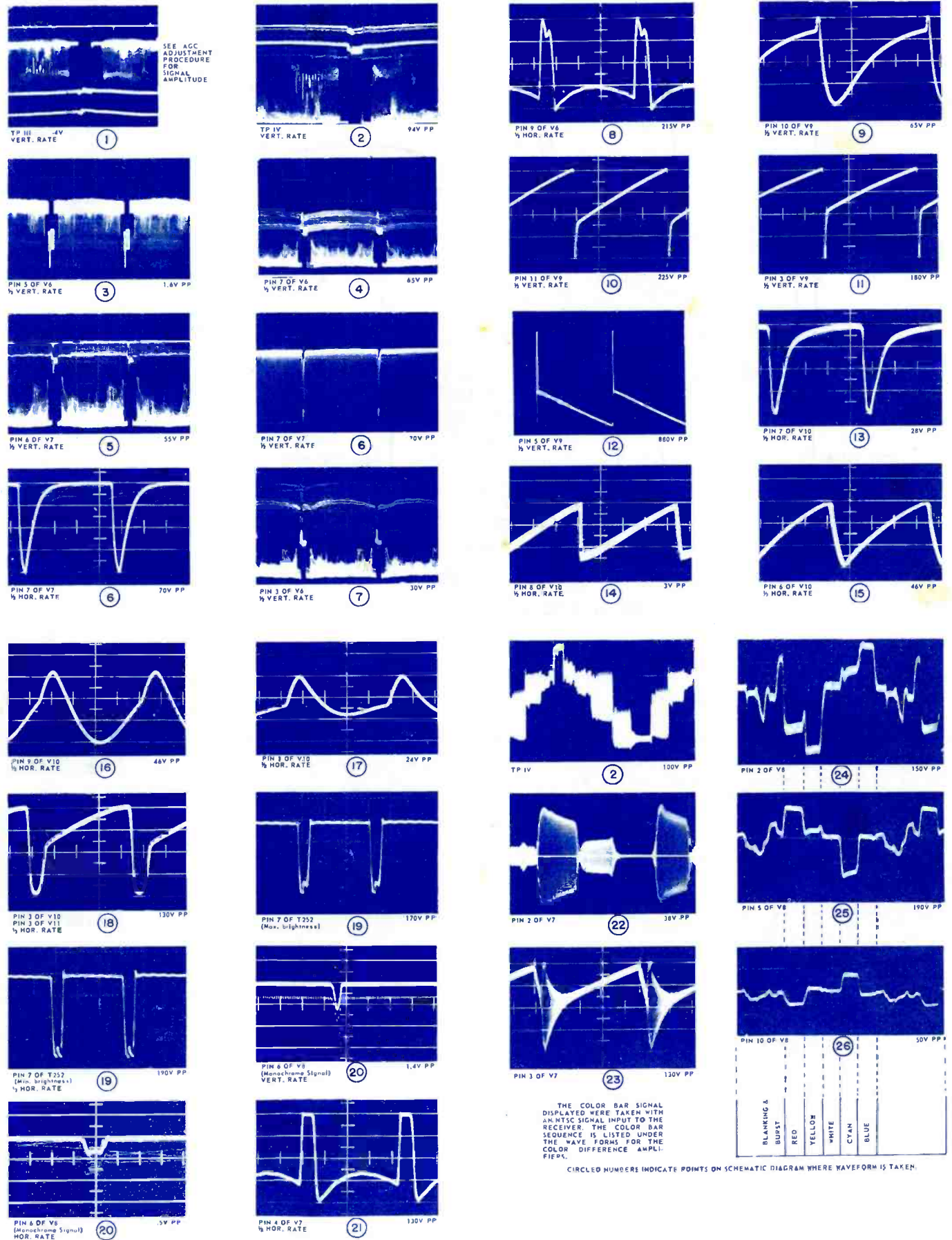
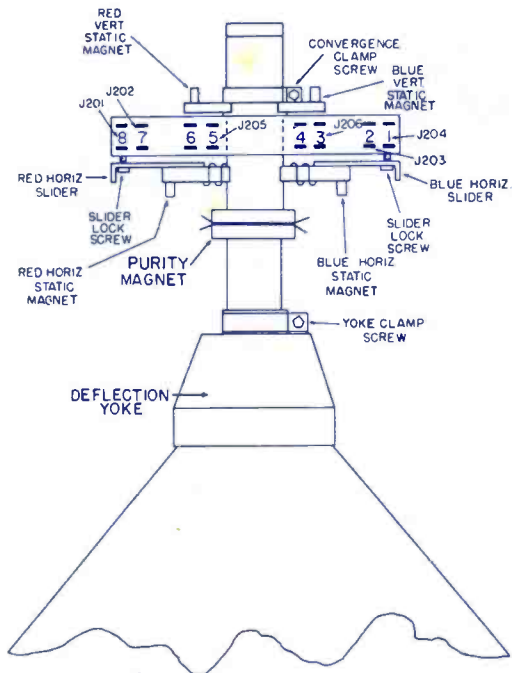
**SCHEMATIC DIAGRAM**

**FINAL OVER-ALL PURITY:**  
Turn the GREEN & BLUE COLOR BRIGHTNESS controls "Off" and position the yoke on the neck of the picture tube for pure overall red raster and for proper leveling of the picture. Tighten the yoke clamp screw while supporting the yoke weight with one hand. Check each color field and check overall convergence, then lock the convergence magnets in position with a drop of Glyptal cement.

**COLOR TEMPERATURE ADJUSTMENTS (Grey Scale)**

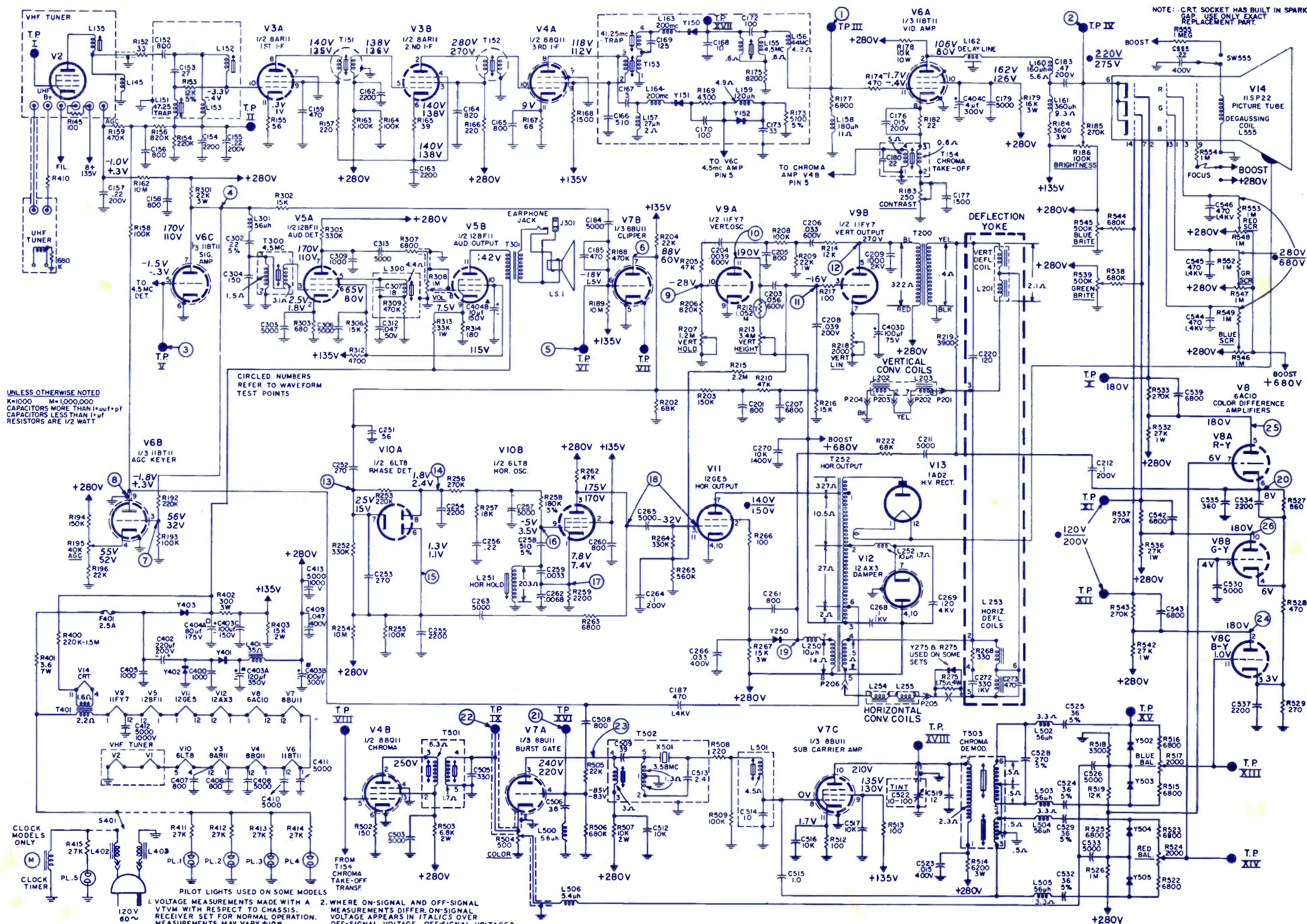
Tune the receiver to an active monochrome channel. Check for proper adjustment of the height, vertical linearity, and the horizontal hold controls. Check convergence and purity. Make necessary adjustments and proceed as follows:

1. Turn the 3 picture tube screen controls fully clockwise. Short the antenna terminals together and switch the channel selector to an unused VHF channel. Turn the contrast control counterclockwise.
2. Turn the master BRIGHTNESS control (on front of receiver) clockwise to a point just short of defocusing the raster. Adjust either/or both of the two COLOR BRIGHTNESS controls to eliminate color shading of the white raster.
3. Turn the master BRIGHTNESS control counterclockwise to a point where the raster is almost extinguished.
4. Adjust the appropriate color screen control to eliminate color shading of the dark grey raster.
5. Check the raster from highlights to low lights adjusting the controls as necessary to maintain gradations from grey to a white raster throughout the usable brightness range. Repeat steps 3 thru 6 if necessary to produce grey scale tracking.
6. Check the positioning, or setting, of the screen controls to make certain that at least one of these controls is set at maximum.





NOTE: CRT SOCKET HAS BUILT IN SPARK GAP. USE ONLY EXACT REPLACEMENT PART.



UNLESS OTHERWISE NOTED  
K=1000 M=1,000,000  
CAPACITORS MORE THAN 1µF+pF  
CAPACITORS LESS THAN 1µF  
RESISTORS ARE 1/2 WATT

CIRCLED NUMBERS  
REFER TO WAVEFORM  
TEST POINTS

1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120VAC LINE VOLTAGE.

2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, ON-SIGNAL VOLTAGE APPEARS IN ITALICS OVER OFF-SIGNAL VOLTAGE. OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED AND ANTENNA TERMINALS SHORTED TOGETHER.  
ON-SIGNAL VOLTAGES AND WAVE SHAPES TAKEN WITH NOISE FREE SIGNAL.

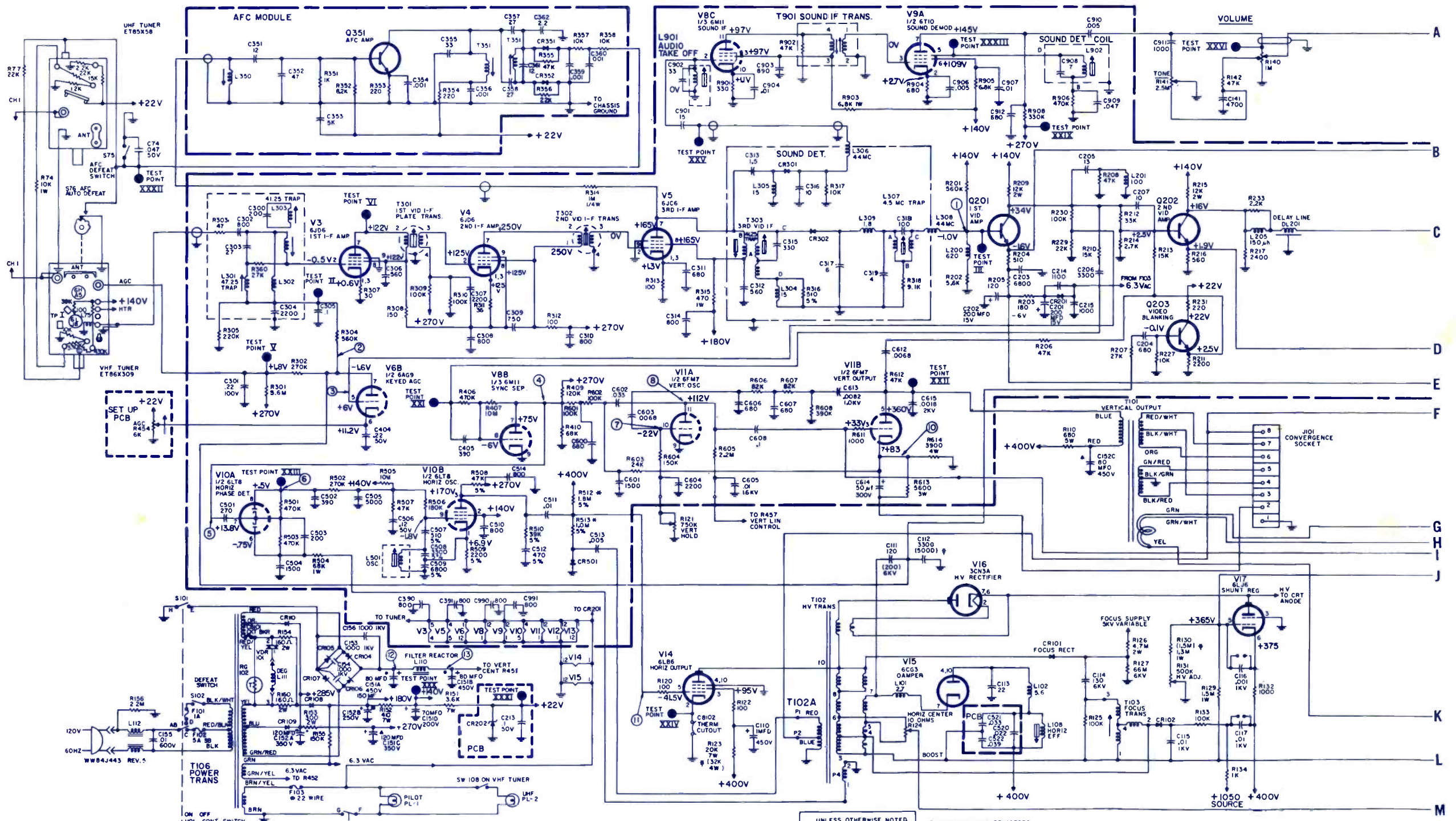
● INDICATES VARIATION WITH CONTROL SETTING  
# INDICATES PRODUCTION CHANGE



SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
RG101	thermistor 120 $\Omega$ cold	EU14X221
RG109	thermistor 3.8 $\Omega$ @ 25 degrees c c 424 $\Omega$ @ 104 degrees C	EU14X147
R123	20K 10% 7w 23 in. sets	EU14X4
R123	32K 10% 4w 18in. & 20in. sets	EU14X220
R127	66M 20% 6kv	EU14X186
R151	3.6K 10% 7w	EU14X5
R152	410 $\Omega$ 10% 7w	EU14X3
R154	80 $\Omega$ 10% 10w WW E.P.	ET14X222
R154	160 $\Omega$ 5% 2w flame proof glass L.P.	EU14X6
R157	140 $\Omega$ 10% 5w WW	EU14X1
R222	5.6K 10% 7w metal film	EU14X116
R613	5.6K 10% 7w metal film	EU14X116

R102	bright 250K	EU49X5
R103	contrast 368 $\Omega$	EU49X4
R121	vert hold 750K	EU49X3
R141	2.5M tone	EU49X12
R451	6 $\Omega$ 20% vert centering	EU49X24
R453	130K 30% height	EU49X27
R454	6K 20% AGC	EU49X25
R455	130K 30% CRT bias	EU49X26
R457	3.4M 30% vert lin	EU49X29
R460	6K 20% green drive	EU49X25
R462	1.5M 30% red screen	EU49X28
R731	1.5K 30% chroma balance	ET49X571
R801	120 $\Omega$ horiz blue left	EU49X607
R804	150 $\Omega$ vert red-green left	EU49X360
R805	120 $\Omega$ horiz red-green left	EU49X357
R813	120 $\Omega$ vert red-green	EU49X357

R814	60 $\Omega$ vert red-green master tilt	EU49X358
C111	200pf 10% 5kv N1500 18 & 20in. sets	EU18X6
C114	139pf 20% 6kv N2200	EU18X458
C123	100pf 10% 4kv N1600	EU18X600
C502	390pf 10% 500v Char D. mica	EU19X2
C503	200pf 10% 500v Char D. mica	EU19X1
C512	470pf 5% 500v Char D. mica	EU19X4
C707	330pf 5% 500v Char F. mica	EU19X87
C613	.008 $\mu$ f 10% 1.6kv malded	EU26X48
C151A	.80 $\mu$ f +50-10% 450v	EU31X1
C151B	.80 $\mu$ f +50-10% 450v	EU31X1
C151C	.120 $\mu$ f +100-10% 350v	EU31X1
C151D	.70 $\mu$ f +50-10% 200v	EU31X1
C152A	.120 $\mu$ f +50-10% 350v	EU31X2
C152B	.150 $\mu$ f +50-10% 250v	EU31X2
C152C	.80 $\mu$ f +50-10% 450v	EU31X2



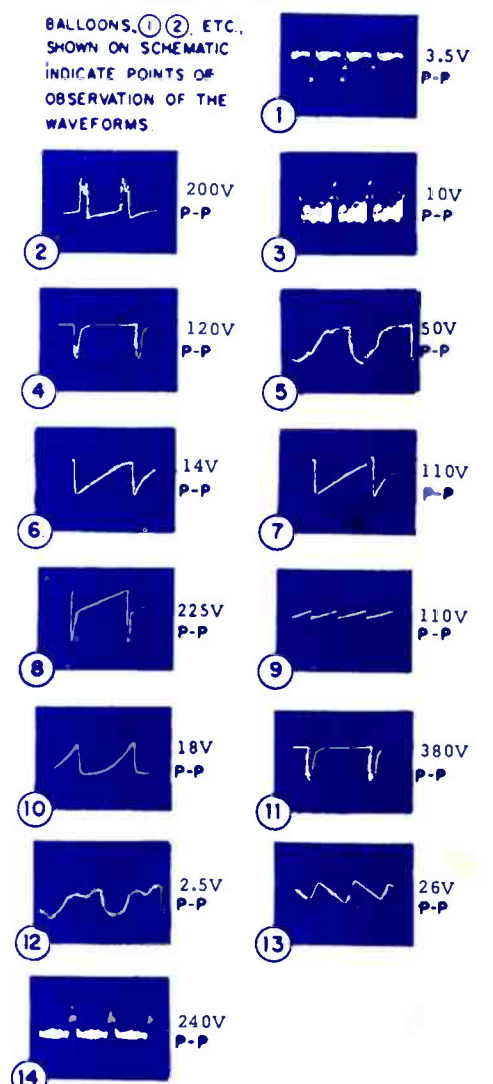
UNLESS OTHERWISE NOTED  
K=1000 M=1,000,000  
CAPACITORS MORE THAN 1.0 $\mu$ f  
CAPACITORS LESS THAN 1.0 $\mu$ f  
RESISTORS ARE 1/2 WATT

\* MATCHED PAIR RESISTORS

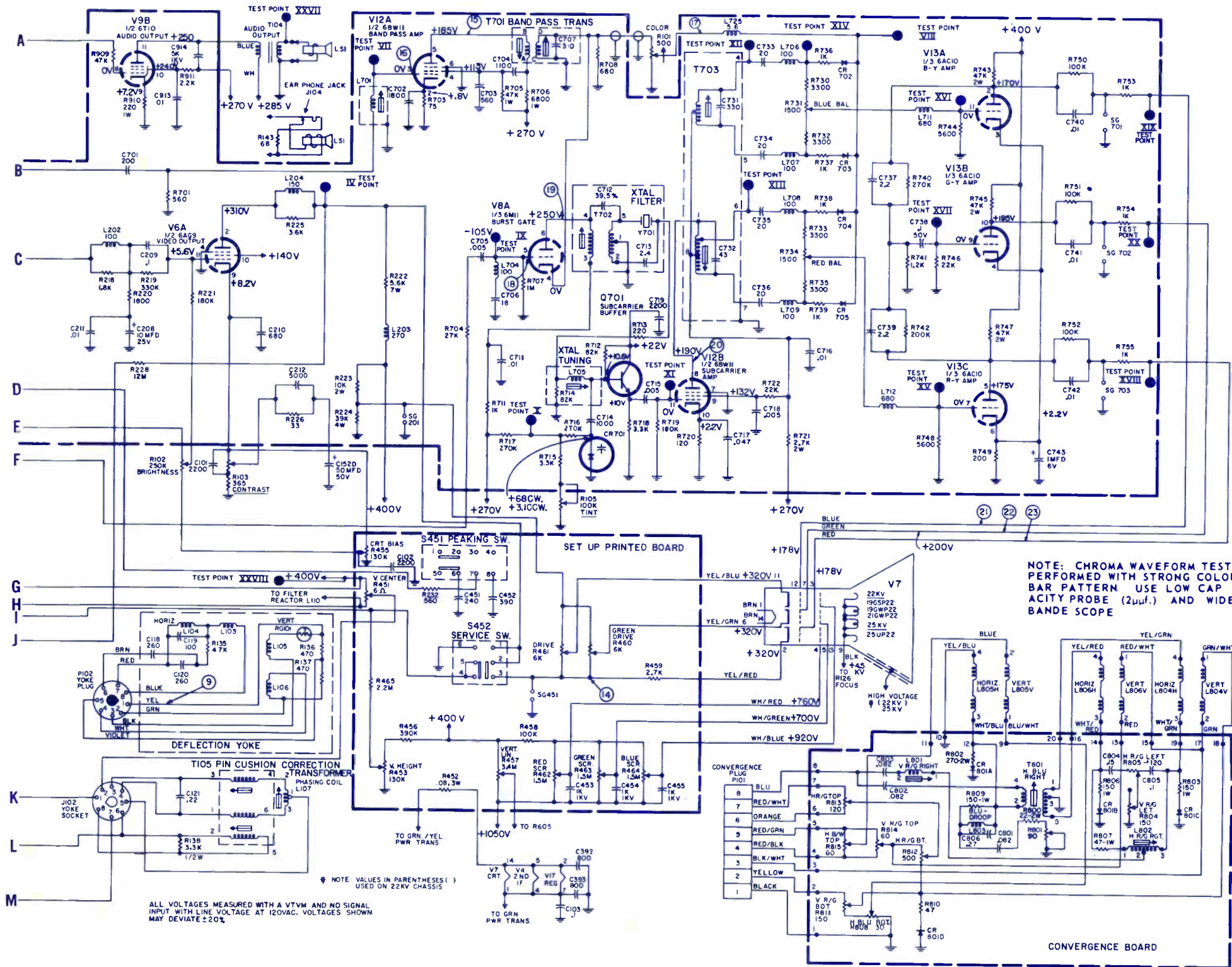
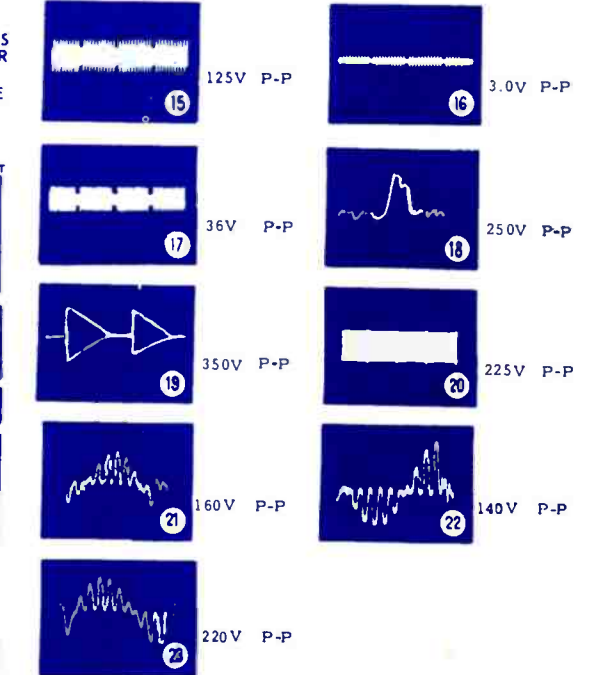


CR101 - rectifier selenium 3MA focus	EUS7X32	L350 - coil AFC input	EU36X13	T103 - coil focus	EU36X710
CR102 - rectifier selenium 2MA boost	EU57X31	L501 - coil horiz osc	EU35X1	T106 - x-former power non power tuned receiver	EUB8X1
CR202 diode zener	EU16X2	L701 - coil chroma input	EU36X6	T351 - x-former AFC discriminator	EU61X6
CR701 - varactor tint	EU30X87	L705 - coil crystal tuning	EU36X7	T701 - x-former chroma band pass	EU61X140
CR702 - rectifier chroma detector	EU16X19	L801 - coil right vert red green	EU36X7B7	T702 - x-former crystal filter	ES61X74
Q203 - transistor video blanking	EU15X27	L802 - coil right horiz red green	EU36X820	T703 - x-former chroma demod	EU61X4
Q701 - transistor sub-carrier buffer	EU15X27	L804 - convergence yoke complete	EU36X2B7	T901 - x-former 4.5MHz interstage	EU61X5
L108 - coil horiz efficiency	EU36X10	L901 - coil sound take off	EU36X793	circuit breaker 1.2a CB101	EU10X54
L110 - filter reactor 0.33 Henries Min. 350 dc MA	EU63X1	L902 - coil quad	EU56X1	fuse 1a 250v fast blo F101	EU10X51
L111 - yoke deflection	EU76X47	L101 - x-former vert output	EU64X1	fuse 5a 125v slo blo F102	EU10X59
L112 - coil dual line filter	EU36X856	L102 - x-former coil horiz output	EU77X116	thermal cutout for 22kv set	EU10X62
DL201 - delay line	EU36X9	w/horiz centering for 18in.	or	thermal cutout for 25kv set	EU10X63
L203 - coil choke 270 uh +7%	EU36X5	& 20in. chassis	ET77X116	tuner VHF 13 position	EU86X305 or
L301 - coil 47.25MHz trap	EU36X742	T102 - x-former coil horiz output	EU77X115	w/AFC	ET86X305
L303 - coil 1st IF grid & 41.25MHz trap	EU36X8	w/horiz centering for 23in.	or		
		chassis	ET77X115		

MISCELLANEOUS WAVEFORMS



CHROMA WAVEFORMS



NOTE: VALUES IN PARENTHESES ( ) USED ON 22KV CHASSIS

ALL VOLTAGES MEASURED WITH A VTVM AND NO SIGNAL INPUT WITH LINE VOLTAGE AT 120VAC. VOLTAGES SHOWN MAY DEVIATE ±20%.



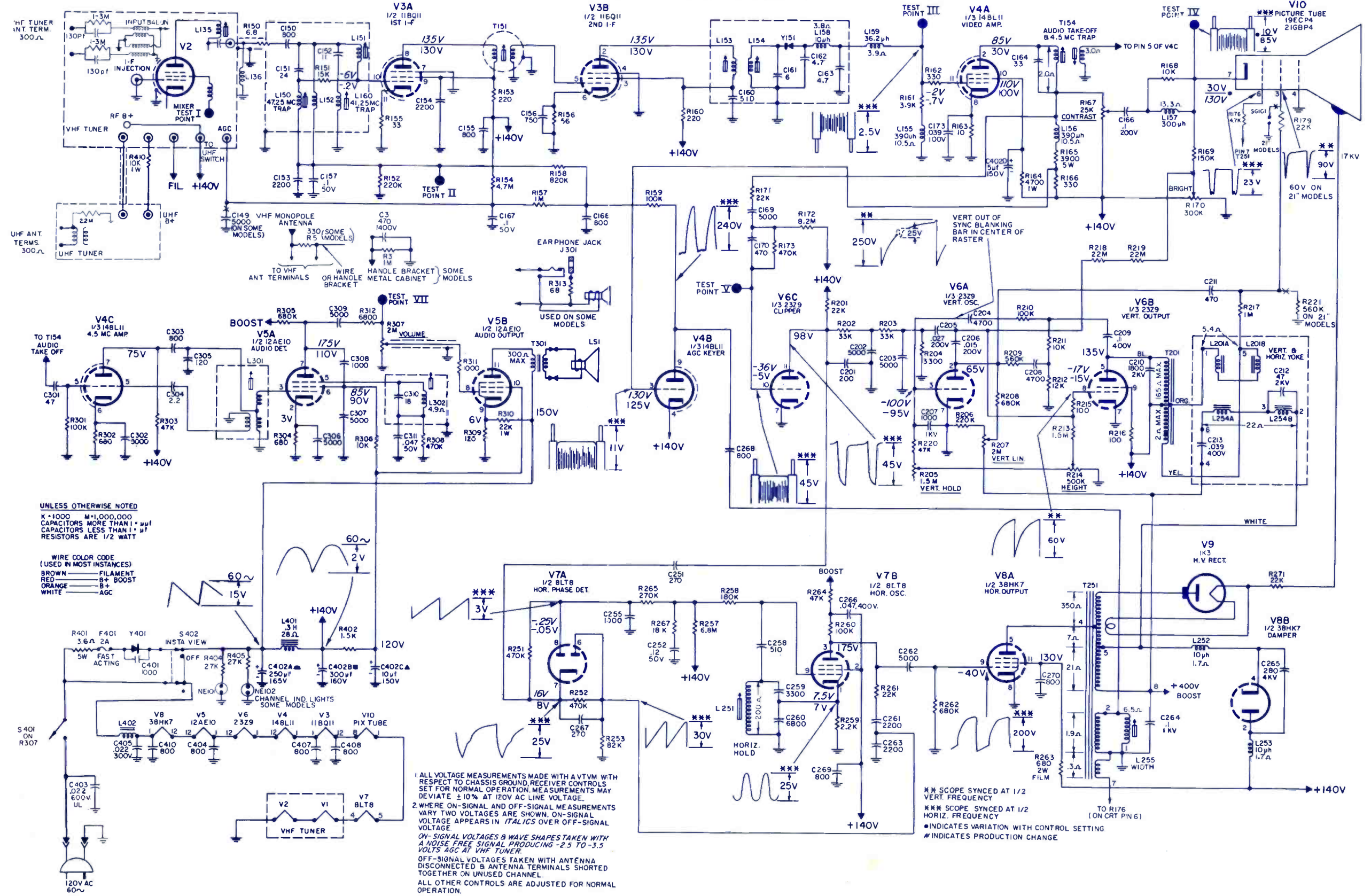




SYMBOL	DESCRIPTION	GENERAL EQUIV. PART NO.
R165	3.9K 10% 5w WW	ET31X231
R401	3.6Ω 10% 7w WW	ET31X231
R207	2M 30% vert lin	ET49X499
R214	500K 20% vert size	ET49X500
R167	contrast	ET31X231
R170	brightness	ET31X231
R205	vert hold	ET31X231
R307	vol w/oc switch	ET31X231
5401	vol w/oc switch	ET31X231
C402A	250μf +100/-10% 200v	ET31X231
C402B	200μf +100/-10% 200v	ET31X231
C402C	10μf +100/-10% 200v	ET31X231
C402D	10μf +100/-10% 200v	ET31X231

C402A	250μf +100/-10% 165v	ET31X300
C402B	200μf +100/-10% 160v	ET31X300
C402C	10μf +100/-10% 160v	ET31X300
C402D	5μf +100/-10% 160v	ET31X300
C210	1800pf 20% 2KV 55HK	ET22X161
C212	47pf 10% 2KV N2200	ET18X459
C265	280pf 10% 4KV N1500	ET18X374
C401	1000pf GMV 2KV 55HK	ET22X101
C414	470pf GMV 1400v HIK	ET22X151
L150	coil 47.25MHz trap assy w/core	ET36X847
L153	coil video det prim w/core	ET36X825
L154	coil video det sec. w/core	ET36X587
L156	coil choke 390μh 7% single pi	ET36X264
L160	coil 41.25MHz link trap assy	ET36X823
L201	yoke deflection	ET76X52

L251	coil horiz osc	ET35X51
L252	coil choke 10μh 10%	ET36X105
L255	coil width control	ET36X774
L301	coil 4.5MHz interstage w/core	ET36X778
L302	coil quad w/core	ET36X732
L401	reactor B+ fil choke 1.2h	ET63X65
L401	rec B+ fil choke .33h	EU63X1
L402	coil choke filament	ET36X833
T151	x-former 1st lf w/core	ET61X162
T154	x-former sound take-off 4.5MHz trap w/core	ET36X854
T201	x-former vert output	ET64X106
T301	x-former audio output	ET64X105
	fuse 2.0a fast act F401	ET10X41
	tuner VHF, AFT	ET86X260
	tuner VHF	ET86X277



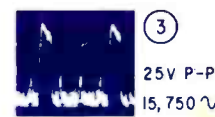
UNLESS OTHERWISE NOTED  
K=1000 M=1,000,000  
CAPACITORS MORE THAN 1 μf  
CAPACITORS LESS THAN 1 μf  
RESISTORS ARE 1/2 WATT

WIRE COLOR CODE  
(USED IN MOST INSTANCES)  
BROWN — FILAMENT  
RED — B+ BOOST  
ORANGE — B+  
WHITE — AGC

1. ALL VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS GROUND, RECEIVER CONTROLS SET FOR NORMAL OPERATION, MEASUREMENTS MAY DEVIATE ±10% AT 120V AC LINE VOLTAGE.  
2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS VARY TWO VOLTAGES ARE SHOWN, ON-SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER OFF-SIGNAL VOLTAGE  
ON-SIGNAL VOLTAGES & WAVE SHAPES TAKEN WITH A NOISE FREE SIGNAL PRODUCING -2.5 TO -3.5 VOLTS AGC AT VHF TUNER.  
OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED & ANTENNA TERMINALS SHORTED TOGETHER ON UNUSED CHANNEL.  
ALL OTHER CONTROLS ARE ADJUSTED FOR NORMAL OPERATION.

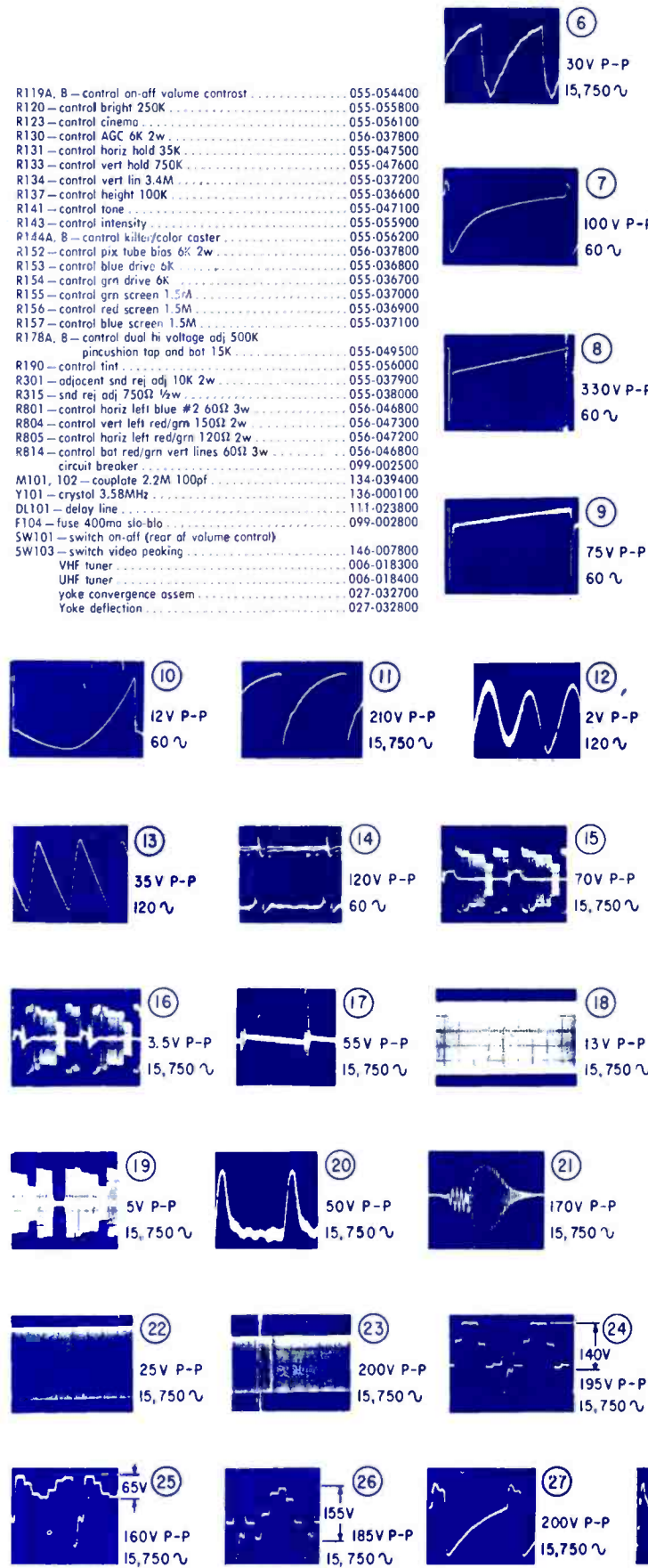
\*\* SCOPE SYNCED AT 1/2 VERT. FREQUENCY  
\*\*\* SCOPE SYNCED AT 1/2 HORIZ. FREQUENCY  
• INDICATES VARIATION WITH CONTROL SETTING  
# INDICATES PRODUCTION CHANGE





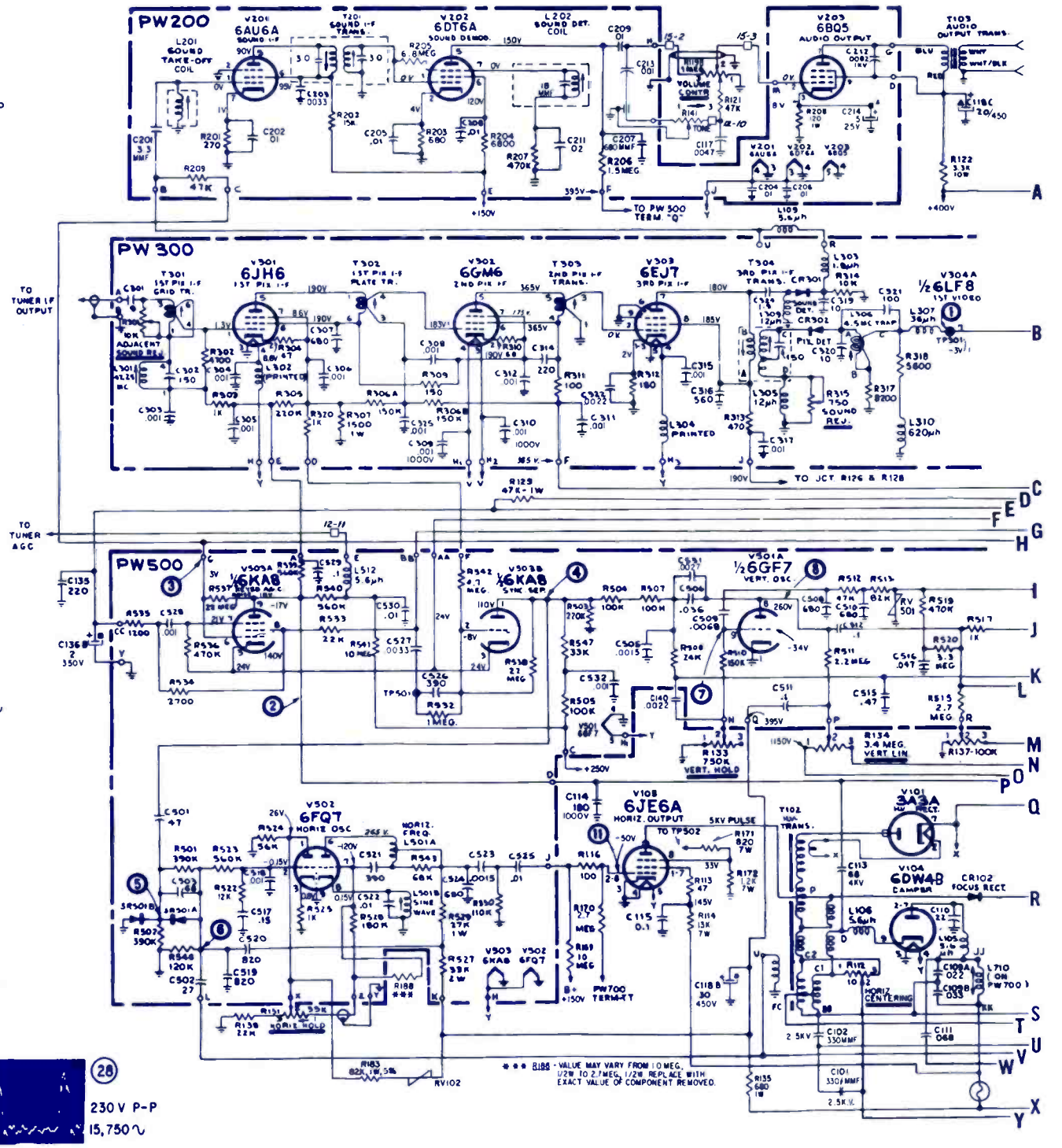
SYMBOL DESCRIPTION HOFFMAN PART NO.

C101, 102 — 530pf 10% 2.5k N2200	035-043600	R119A, B — control on-off volume contrast	055-054400
C103 — 100pf 5% 3kv (part of yoke)	858-102706	R120 — control bright 250K	055-055800
C105, 108 — .01μf +80 — 20% 1.4kV cer	837-103896	R123 — control cinema	055-056100
C107 — 130pf 20% 6kV cer N2200	035-033300	R130 — control AGC 6K 2w	055-037800
C109A — dual paper (matched pair)	047-018700 &	R131 — control horiz hold 35K	055-047500
B — .022μf and .033μf 10% .6kV	047-018900	R133 — control vert hold 750K	055-047600
C110 — 22pf 20% 1kV cer N750	882-220726	R134 — control vert lin 3.4M	055-037200
C113 — 68pf 10% 4kV cer N1500	886-680017	R137 — control height 100K	055-036600
C116 — .0033μf 10% 2kV paper	046-019800	R141 — control tone	055-047100
C118A — 80μf 450V		R143 — control intensity	055-055900
B — 30μf 450V		R144A, B — control killer/color caster	055-056200
C — 20μf 450V	elect 034-025900	R152 — control pix tube bias 6K 2w	056-037800
D — 40μf 150V		R153 — control blue drive 6K	055-036800
C124A — 80μf 450V		R154 — control grn drive 6K	055-036700
B — 50μf 450V		R155 — control grn screen 1.5M	055-037000
C — 20μf 250V	elect 034-019200	R156 — control red screen 1.5M	055-036900
D — 50μf 50V		R157 — control blue screen 1.5M	055-037100
C136A — 80μf 450V		R178A, B — control dual hi voltage adj 500K	055-049500
B — 2μf 350V	elect 034-025800	pin cushion top and bot 15K	
C — 25μf 25V		R190 — control tint	055-056000
C147 — .03μf GMV 50V cer	835-303406	R301 — adjacent snd rej adj 10K 2w	055-037900
C309, 310 — .001μf +100 — 0% 1kV tubular	858-102706	R315 — snd rej adj 750Ω 1/2w	055-038000
C514 — .0082μf 20% 1kV paper	046-015700	R801 — control horiz left blue #2 60Ω 3w	056-046800
C524 — 680pf 5% .5kV mica	045-007300	R804 — control vert left red/grn 150Ω 2w	056-047300
C714, 715, 740, 741 — 330pf 5% .5kV mica	045-007200	R805 — control horiz left red/grn 120Ω 2w	056-047200
C728 — 200pf 5% .5kV mica	045-008500	R814 — control bot red/grn vert lines 60Ω 3w	056-046800
L105, 106, 109, 110, 111 — coil reactor 5.6μh	111-021200	circuit breaker	099-002500
L107 — coil filter choke	032-002600	M101, 102 — couplete 2.2M 100pf	134-039400
L108 — coil peaking 72μh	111-021500	Y101 — crystal 3.58MHz	136-000100
L112, 115 — coil peaking 390μh	111-021800	DL101 — delay line	111-023800
L114 — coil vert pin cushion phase	111-032400	F104 — fuse 400mA slo-blo	099-002800
L116, 117 — coil degaussing	111-032600	SW101 — switch on-off (rear of volume control)	146-007800
L201 — coil snd take-off	109-029700	SW103 — switch video peaking	106-018300
L202 — coil snd det	109-029900	VHF tuner	006-018400
L301 — coil 47.25MHz trap	109-022200	UHF tuner	006-018400
L303 — coil 1.8μh	111-021000	yoke convergence assem	027-032700
L305 — coil 12μh	111-021300	Yoke deflection	027-032800
L306 — coil 4.5MHz trap	109-023400		
L310 — coil peaking 620μh	111-022800		
L311 — coil peaking 680μh	111-021900		
L501A, B — coil horiz sine wave freq	109-021600		
L512 — coil 5.6μh RF reactor choke	111-021100		
L701 — coil chroma take-off	111-023500		
L702 — coil reactance	111-023700		
L703 — coil peaking 10μh	111-022700		
L708 — coil peaking 62μh	111-022600		
L709 — coil reactor 120μh	111-021400		
L710 — coil horiz eff	111-032300		
L802 — coil red/grn rt horiz lines	111-031700		
L803 — coil blue horiz shape	111-031900		
T101 — xformer focus	111-032200		
T102 — xformer horiz output	033-013000		
T103 — xformer audio output	031-009400		
T104 — xformer vert output	033-010300		
T105 — xformer power	033-011900		
T107 — xformer vert pin cushion phase	033-010400		
T201 — xformer snd IF	109-029800		
T301 — xformer grid 1st pix IF	109-022100		
T302 — xformer plate 1st pix IF	109-022400		
T304 — xformer 3rd pix IF	109-023300		
T701 — xformer bandpass	109-023100		
T702 — xformer burst phase	109-023600		
T703 — xformer 3.58MHz osc	109-024500		
R101 — 4.7K 20% 2w (in deflection circuit)	051-823110		
R106A, B — 1.5M 20% 1w (matched pair)	052-000700		
R109 — 4.7M 20% 2w	051-475221		
R114 — 13K 10% 7w fixed film	054-135710		
R117 — 3.3K 10% 3w fixed film	054-332310		
R122 — 3.3K 10% 10w WW	053-332110		
R126 — 680Ω 10% 4w fixed film	054-681410		
R127 — 1.4K 10% 20w WW	053-142310		
R128, 171 — 820Ω 10% 7w fixed film	054-821710		
R132 — 6.8K 10% 3w fixed film	054-682310		
R135 — 680Ω 10% 1w	051-681110		
R142 — 10K 10% 10w WW	053-103110		
R146 — 2.7K 10% 3w fixed film	054-272310		
R149 — 5.6K 10% 4w fixed film	054-562410		
R150 — 6.8K 10% 2w fixed film	054-682210		
R162 — 1K 10% 3w fixed film	054-102310		
R172 — 1.2K 10% 7w fixed film	054-122710		
R306A, B — 150K 20% 1/2w (matched pair)	052-000800		
R330 — 47K 5% 2w	051-473251		
R527 — 33K 10% 2w fixed film	054-333210		
R530 — 110K 5% 1/2w	051-114551		
R706 — 39K 5% 1/2w	051-393550		
R716A, B, 750A, B — 1M 10% 1/2w (matched pairs)	052-000500		
R723A, B — 3.9K 10% 1w (matched pair)	052-000600		
R728 — 270Ω 10% 3w fixed film	054-271310		
R732, 734, 736 — 27K 10% 2w fixed film	054-273210		
R735 — 22K 10% 2w fixed film	054-223210		
RT101 — thermistor 1.25Ω 25% hot	057-001200		
RT102 — thermistor temp compensating 5Ω cold (part of yoke)			
VR101 — varistor 175V 15% 1ma	057-001501		
VR102 — varistor 110V 10% 1ma	057-001600		
VR103 — varistor 20V 20% 67ma	057-001300		
VR501 — varistor 1.48kV 15% 10ma	057-000200		
CR101 — rect selenium	004-003100		
CR302 — diode 1N87	003-005400		
CR801A, B, C, D — rect selenium	004-003700		
Q101, 102 — tr color caster	002-009900		
SR105 — rect silicon color caster	004-003500		
SR501A, B — rect horiz phase	004-002900		
R112 — control horiz centering 10Ω	055-039100		



**ELECTRICAL SPECIFICATIONS**

ANTENNA INPUT IMPEDANCE	300 ohms balanced	POWER INPUT	120 volts AC, 60 cycle
CONVERGENCE	Magnetic	POWER RATING	350 watts total (70-80 watts with set "OFF", INSTANT-ON switch to "ON")
FOCUS	Electrostatic	SPEAKER SIZE AND TYPE	See Parts List
AUDIO POWER OUTPUT RATING	2.5 watts max.	SWEEP DEFLECTION	Electro Magnetic
INTERMEDIATE FREQUENCIES		TELEVISION R-F FREQUENCY RANGE	All 12 television channels
Picture I-F Carrier Frequency	45.75 mc.		54 mc. -88 mc., 174 mc. -216 mc.
Sound I-F Carrier Frequency	41.25 mc.		Any of 70 UHF channels
Color Sub-Carrier Frequency	42.17 mc. (Nominal)		470 mc. -890 mc.





**TUBE AND TRANSISTOR COMPLEMENT**

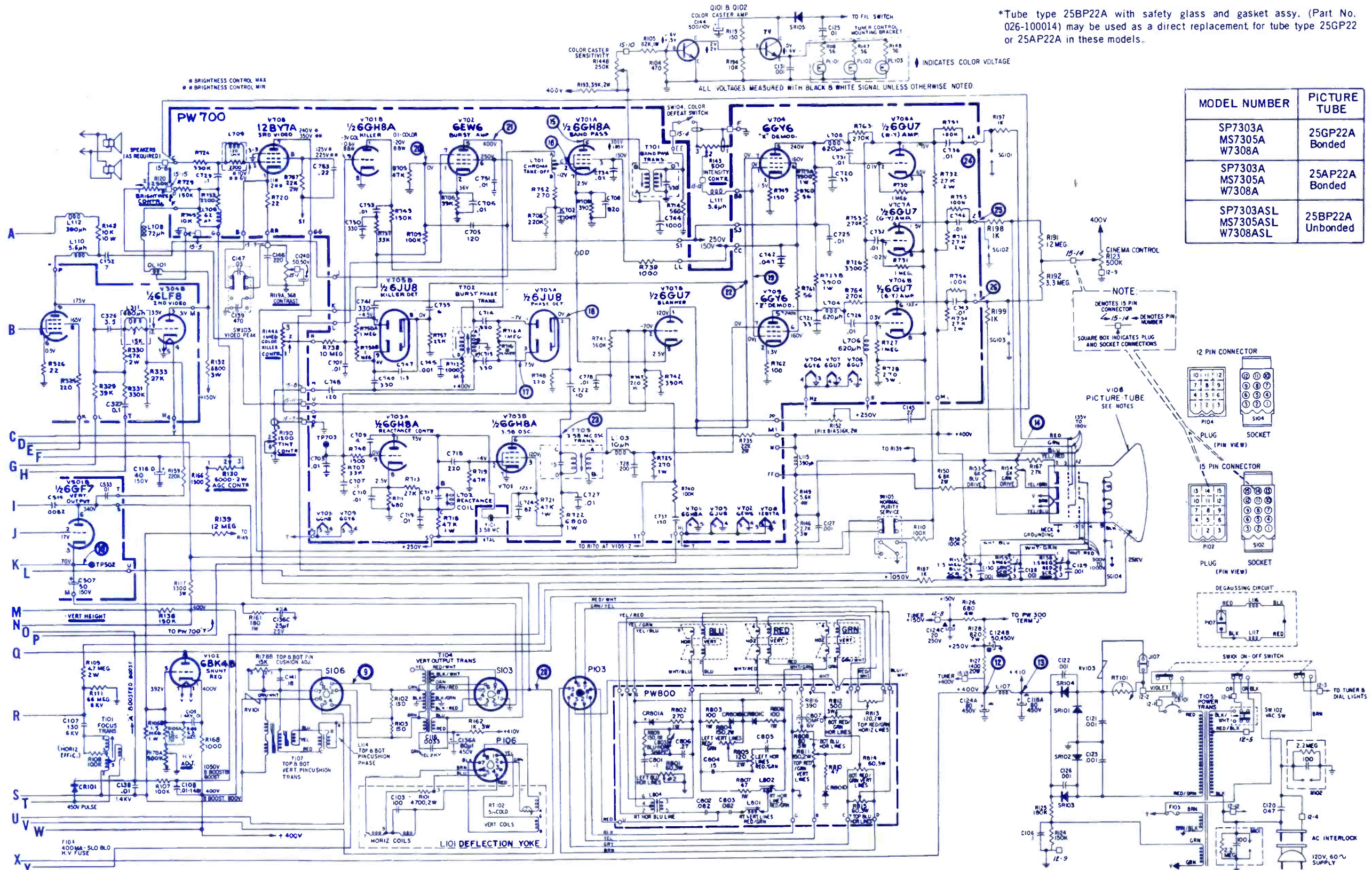
- V1 ..... 6HQ5 ..... RF Amplifier
- V2 ..... 6HB7 ..... VHF Oscillator & Mixer
- Q51 ..... GMO380 ..... UHF Oscillator-Transistor (006-018400)
- Q51 ..... S2020 ..... UHF Oscillator-Transistor (006-018401)
- V101 ..... 3A3A ..... High Voltage Rectifier
- V102 ..... 6BK4B ..... Shunt Regulator
- V104 ..... 6DW4B ..... Damper
- V105 ..... 6JE6A ..... Horizontal Output
- V108 ..... 25AP22A, 26GP22A, 25BP22A\* ..... Picture Tube
- V201 ..... 6AU6A ..... Sound IF Amplifier

- V202 ..... 6DT6A ..... Sound Demodulator
- V203 ..... 6BQ5 ..... Audio Output
- V301 ..... 6JH6 ..... 1st Picture IF Amplifier
- V302 ..... 6GM6 ..... 2nd Picture IF Amplifier
- V303 ..... 6EJ7 ..... 3rd Picture IF Amplifier
- V304A&B ..... 6LF8 ..... 1st & 2nd Video Amplifier
- V501A&B ..... 6GF7A ..... Vert. Osc. & Vert. Output
- V502 ..... 6FQ7 ..... Horizontal Oscillator
- V503A&B ..... 6KA8 ..... Keyed AGC, Noise Inv., Sync. Sep.
- V701A&B ..... 6GH8A ..... Band-Pass Amplifier & Killer

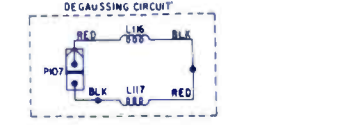
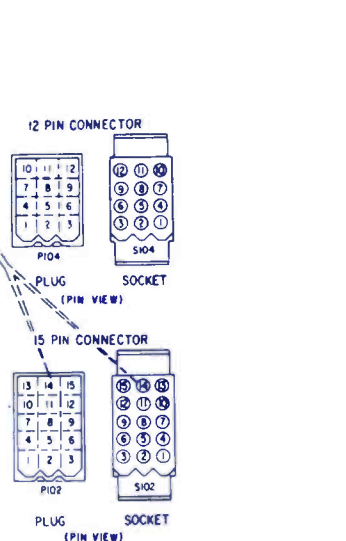
- V702 ..... 6EW6 ..... Burst Amplifier
- V703A&B ..... 6GH8A ..... 3.58 mc. Osc. & Reactance Control
- V704 ..... 6GY6 ..... "X" Demodulator
- V705A&B ..... 6JU8 ..... Phase Detector & Killer Detector
- V706A&B ..... 6GU7 ..... R-Y Amplifier & B-Y Amplifier
- V707A&B ..... 6GU7 ..... G-Y Amplifier & Blanker
- V708 ..... 12BY7A ..... 3rd Video Amplifier
- V709 ..... 6GY6 ..... "Z" Demodulator

**HOFFMAN**  
Color TV Chassis 913-000366, 386

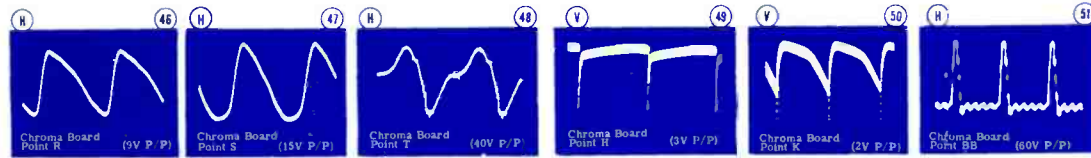
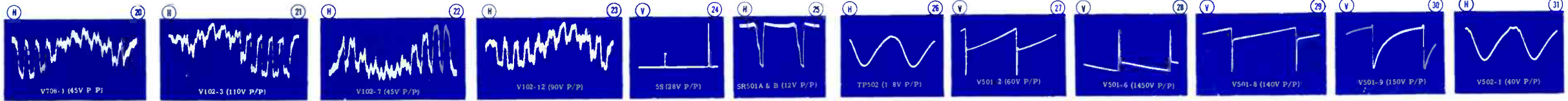
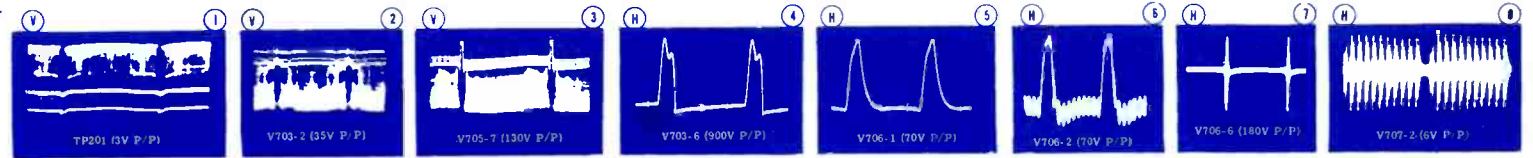
\*Tube type 25BP22A with safety glass and gasket assy. (Part No. 026-100014) may be used as a direct replacement for tube type 25GP22 or 25AP22A in these models.



MODEL NUMBER	PICTURE TUBE
SP7303A MS7305A W7308A	25GP22A Bonded
SP7303A MS7305A W7308A	25AP22A Bonded
SP7303ASL MS7305ASL W7308ASL	25BP22A Unbonded



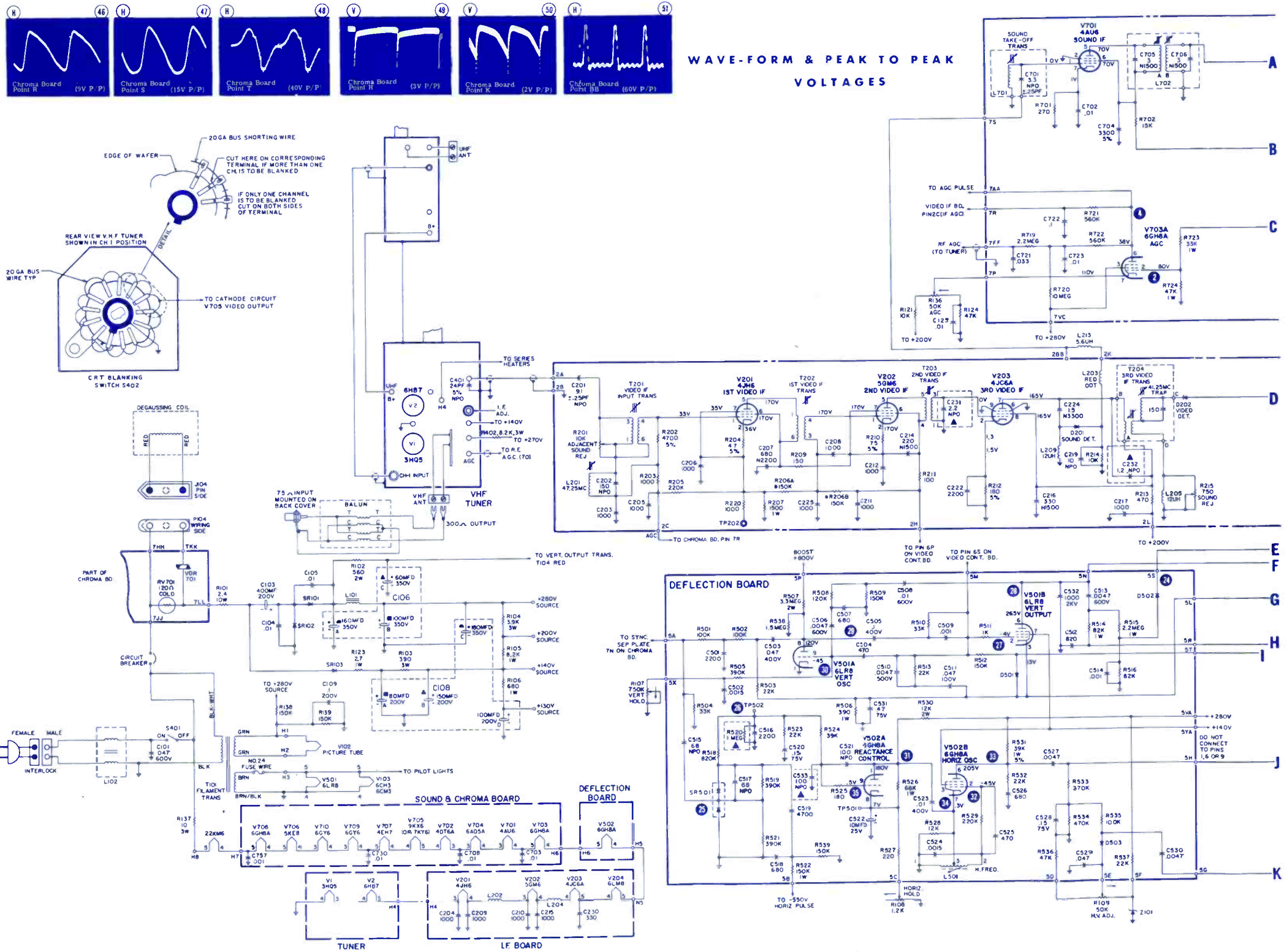




**WAVE-FORM & PEAK TO PEAK VOLTAGES**

SYMBOL DESCRIPTION MAGNAVOX PART NO.

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
<b>XFORMERS &amp; COILS</b>		
T101	— filament xformer	320339-1
T102	— HV xformer	361267-2
T103	— focus xformer	361240-2
T104	— vert output xformer	320317-3
T105	— audio output xformer	320130-4
T201	— IF input xformer	360951-1
T202	— IF xformer	360951-6
T204	— IF xformer & 41.25MHz trap	360953-2
T701	— bandpass xformer	361192-1
T702	— burst xformer	361296-1
T703	— 3.58MHz output xformer	361198-1
L101	— reactance choke	320124-1
L102	— line filter	361250-1
L104	— 100µh peaking coil	361091-5
L105	— 5.6µh choke	360676-5
L206	— 4.5MHz trap	360953-2
L211	— tweet choke	360852-7
L214	— 177MHz tweet choke	360852-5
L501	— horiz frequency coil	361269-1
L701	— sound take-off coil	360845-2
L702	— sound IF coil	360846-3
L703	— quad coil	360847-2
L707	— 150µh peaking coil	360853-5
L713	— 620µh peaking coil	360853-11
L717	— chromo take-off coil	360959-4
L801	— r/g master amplitude coil	361092-1
L804	— horiz blue tilt coil	361188-1
L805	— blue master amplitude coil	361092-5
	degaussing coil (2 used)	361266-3
	deflection yoke	361290-402
<b>CAPACITORS: 20%, 500v unless noted otherwise</b>		
C106	— 160/100/60µf, 350v, elect	270071-9
C108	— 80/150/100µf, 200v, 180µf, 350v, elect	270071-10
C113	— 68pf, 10% 4kv (N1500) cer	250475-24
C118	— 130pf, 6kv (N220) cer	250475-11
C120	— 1kpf, 2kv (N3300) cer	250475-37
C121	— 33pf, 5% 500v (N750) cer	250470-3305
C401	— 24pf, 5% (NPO) cer	250508-2405
C705	— 3pf, 10% (N1500) cer	250529-3099
C711	— 18pf, 5% (N150) cer	250527-1805
C743	— 3.12pf, cer trimmer	250371-4
<b>RESISTORS: 10% 1/2w unless noted otherwise</b>		
R101	— 2.4Ω, 10w WW	240082-11
R117	— 66M (6kv breakdown)	230161-1
R137	— 10Ω 3w gloss	230193-1009
R402	— 8.2k, 3w gloss	230150-340
R606	— 6.8k 2w gloss	230160-72
R617	— 5.6k, 4w	230150-436
R726	— 10k, 3w (gloss)	230150-342
<b>CONTROLS</b>		
R107	— 750k, vert hold	220146-50
R108	— 1.2k, horiz hold	220146-71
R109	— 50k, HV adjust	220208-42
R126	— 10Ω, 2w, vert centering	220181-10
R127	— 600Ω, sharpness	220146-29
R128	— 1M, color killer	220208-45
R130	— 600Ω, contrast	220146-29
R135	— 200k, crt bias	220208-44
R136	— 50k, agc adjust	220208-43
R140	— 3M, tone	220146-26
R201	— 10k, adj sound rejection	220182-1
R215	— 750Ω, sound rejection	220166-4
R401	— 1M, off/on/val (T924-01)	220135-12
R401	— 1M, off/on/val (T924-02)	220126-6
R403	— 2.5k, color	220232-4
R404	— 250k, bright	220126-82
R405	— 2.5k, tint	220232-4
R605	— 6k blue drive	220166-15
R611	— 1.5M, blue screen	220166-17
R616	— 5M, height	220166-22
R804	— 120Ω, master tilt	220167-6
R814	— 60Ω, r/g master tilt	220167-3
<b>SEMICONDUCTORS</b>		
CR101	— focus rectifier	530132-1
Z101	— zener diode	530073-16
D201	— video det diode	530065-2
D202	— sound det diode	530065-2
D503	— horiz regulation diode	530113-1
D701	— color killer bias diode	530065-2
<b>MISCELLANEOUS</b>		
TD101	— delay line	360949-5
SG701	— spurk gap	180832-3
RV701	— thermistor	230170-2
VDR701	— varistor	230175-2
	circuit breaker	180723-2
	VHF tuner (T924-01)	340131-1
	VHF tuner (T924-02)	340111-1
	UHF tuner	340087-5









# MAGNAVOX

Color TV Chassis  
T932

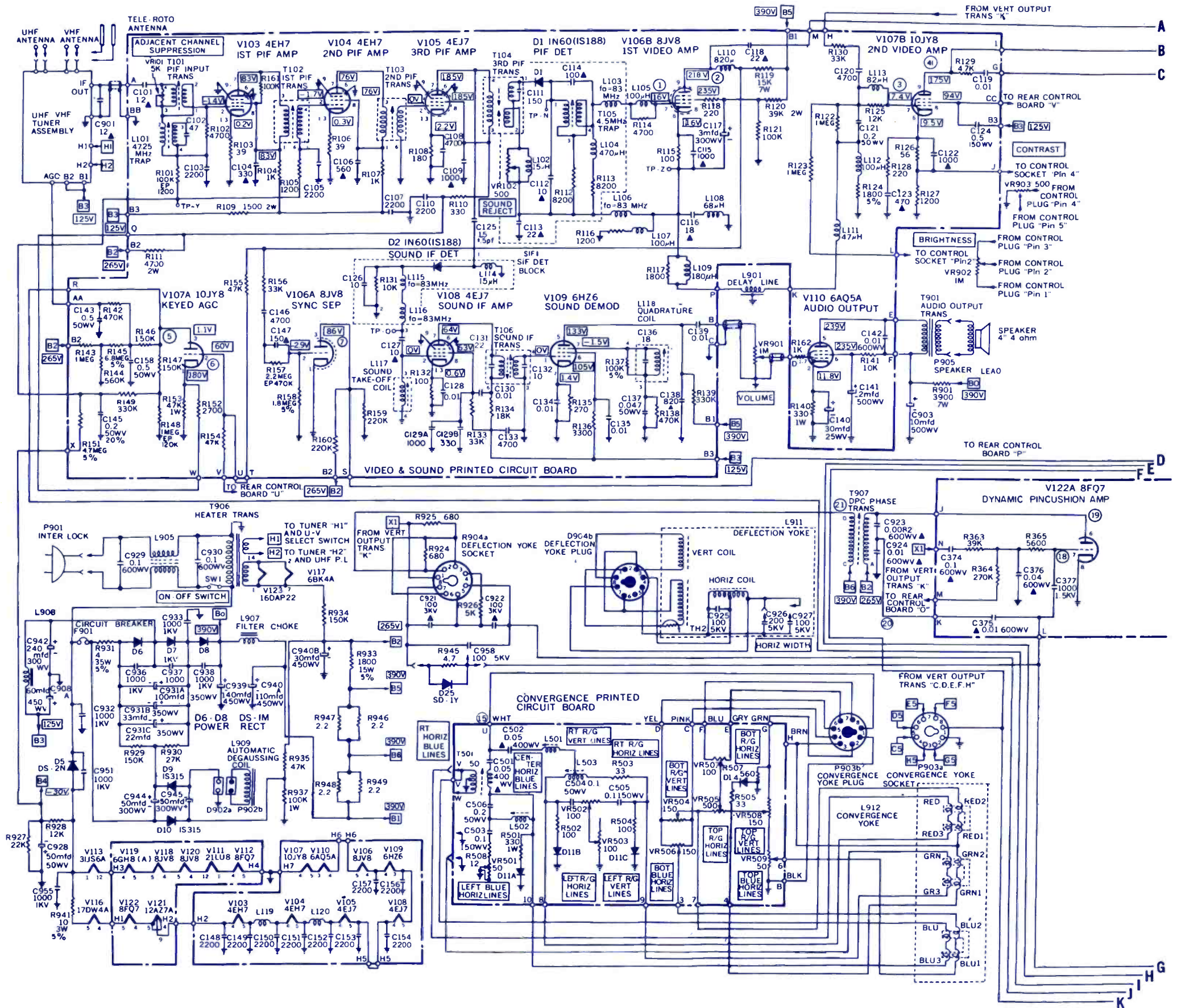
ELECTRONIC  
TECHNICIAN / DEALER

# TEKFAX

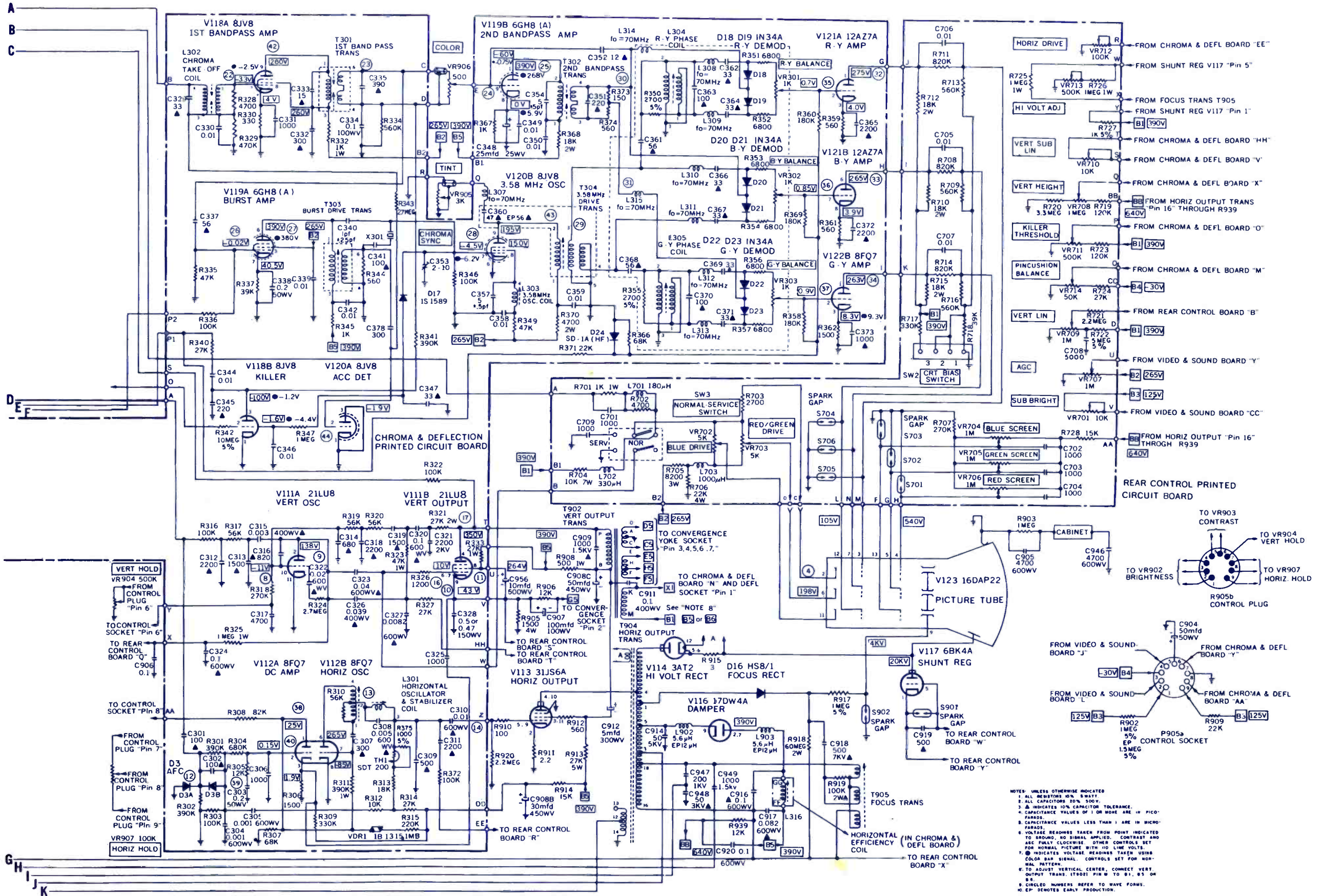
D2	sound, detector diode (part of SIF 1 det block)	53B010-1	D17	color killer diode	53B010-6	VDR1	varistor	23B004-1
D3A, B	horiz AFC diode	53B010-2	D20	B-Y demodulator diode	53B010-7	SW2	CRT bias switch	16B019-2
D5	silicon filament rectifier diode	53B010-3	D24	silicon filter diode	53B010-8	SW3	normal service switch	16B019-3
			D25	silicon horiz centering diode	53B010-9	S701	spark gap	18B024-1
D6	silicon B+ rectifier diode	53B010-4	X301	3.58MHz crystal	53B009-1	F901	circuit breaker	18B023-1
D16	silicon focus rectifier diode	53B011-3	SIF1	sound detector block	36B043-15		VHF tuner	34B004-2
			TH1	thermistor	23B004-2		UHF tuner	34B004-1

SYMBOL DESCRIPTION MAGNAVOX PART NO.

T101	PIF input xformer	36B043-1
T103	2nd PIF xformer	36B043-3
T106	sound IF xformer	36B043-6
T301	1st bandpass xformer	36B043-7
T302	2nd bandpass xformer	36B043-8
T303	burst xformer	36B043-9
T901	audio output xformer	32B011-1
T902	vert output xformer	32B012-1
T904	horiz output xformer	36B045-1
T905	focus xformer	36B043-12
T906	heater xformer	32B013-1
L101	47.25MHz trap	36B044-1
L102	15µh peaking coil	36B044-2
L103	83MHz filter coil	36B044-3
L108	66µh peaking coil	36B044-6
L109	180µh peaking coil	36B044-7
L111	47µh peaking coil	36B044-9
L112	100µh peaking coil	36B044-5
L113	82µh peaking coil	36B044-10
L117	sound-take off coil	36B044-11
L118	quad coil	36B044-12
L119	choke	36B044-13
L301	horiz osc/stabilizer coil	36B044-14
L302	chroma take-off coil	36B044-15
L304	R-Y phase coil	36B044-17
L305	G-Y phase coil	36B044-18
L310	70MHz filter coil	36B044-19
L316	horiz efficiency coil	36B044-22
L503	right R/G horiz lines coil	36B044-7
L701	180µh peaking coil	36B044-23
L702	330µh peaking coil	36B044-24
L703	1000µh peaking coil	36B046-1
L901	delay line	36B044-25
L903	12µh peaking coil (early production)	32B013-3
L907	filter coil	32B013-5
L909	automatic degaussing coil	36B047-1
L911	deflection yoke	36B048-1
L912	convergence yoke	25B022-2
C303	lacquer 2µf 20% 50v	25B020-41
C321	cer 2200pf 20% 2kv	25B024-2
C503	metalized paper .1µf GMV 150v	27B033-10
C908A, B, C	cer 500pf 10% 7kv	25B020-27
C931A, B, C	elect 100/33/22µf 350v	27B033-13
C932	cer 1000pf 20% 1kv	25B020-36
C939	elect 60/50/30µf 450v	27B033-11
C940	elect 60/50/30µf 450v	27B033-10
C942	elect 200/40µf 300v	27B033-12
R119	15K 10% 7w (metal oxide film)	230192-1539
R120	39K 10% 2w (metal oxide film)	230192-3939
R704	10K 10% 7w (metal oxide film)	230197-1039
R906	12K 10% 5w	230144-75
R918	60M 10% 2w (carbon film)	23B006-18
R919	100K 10% 2w (metal oxide film)	230192-1049
R931	4.5% 35w WW	24B008-3
R933	1.8K 5% 15w WW	24B008-2
R941	10 5% 3w WW	24B008-1
VR101	5K adjacent channel suppression	22B016-1
VR102	500 sound rejection	22B016-2
VR302	3K B-Y balance	22B016-7
VR502	100 left R/G vert lines	22B016-4
VR505	500 top R/G horiz lines	22B016-6
VR506	150 bottom blue horiz lines	22B016-5
VR701	10K cer sub bright	22B016-8
VR702	5K blue drive	22B016-9
VR704	1M blue screen	22B016-10
VR708	1M vert height	22B016-10
VR710	10K cer vert sub lin	22B016-8
VR711	500K cer killer threshold	22B016-11
VR712	100K cer horiz drive	22B016-12
VR713	500K cer HV adj	22B016-11
VR714	50K cer pincushion balance	22B016-13
VR901	1M off-on vol	22B016-14
VR902	1M bright	22B016-15
VR903	500Ω contrast	22B016-16
VR904	500K vert hold	22B016-17
VR905	3K tint	22B016-18
VR906	500Ω color	22B016-19
VR907	100K horiz hold	22B016-20



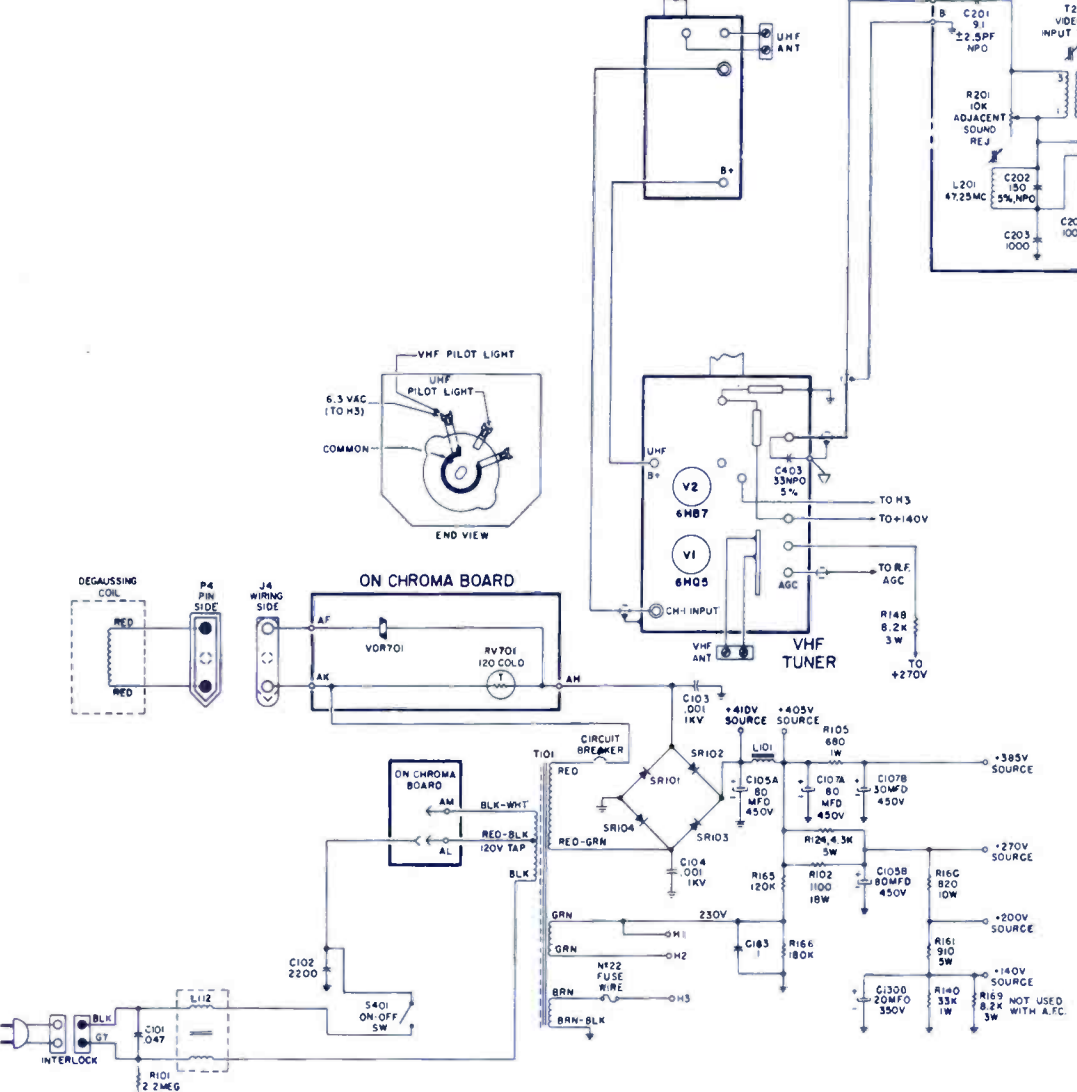
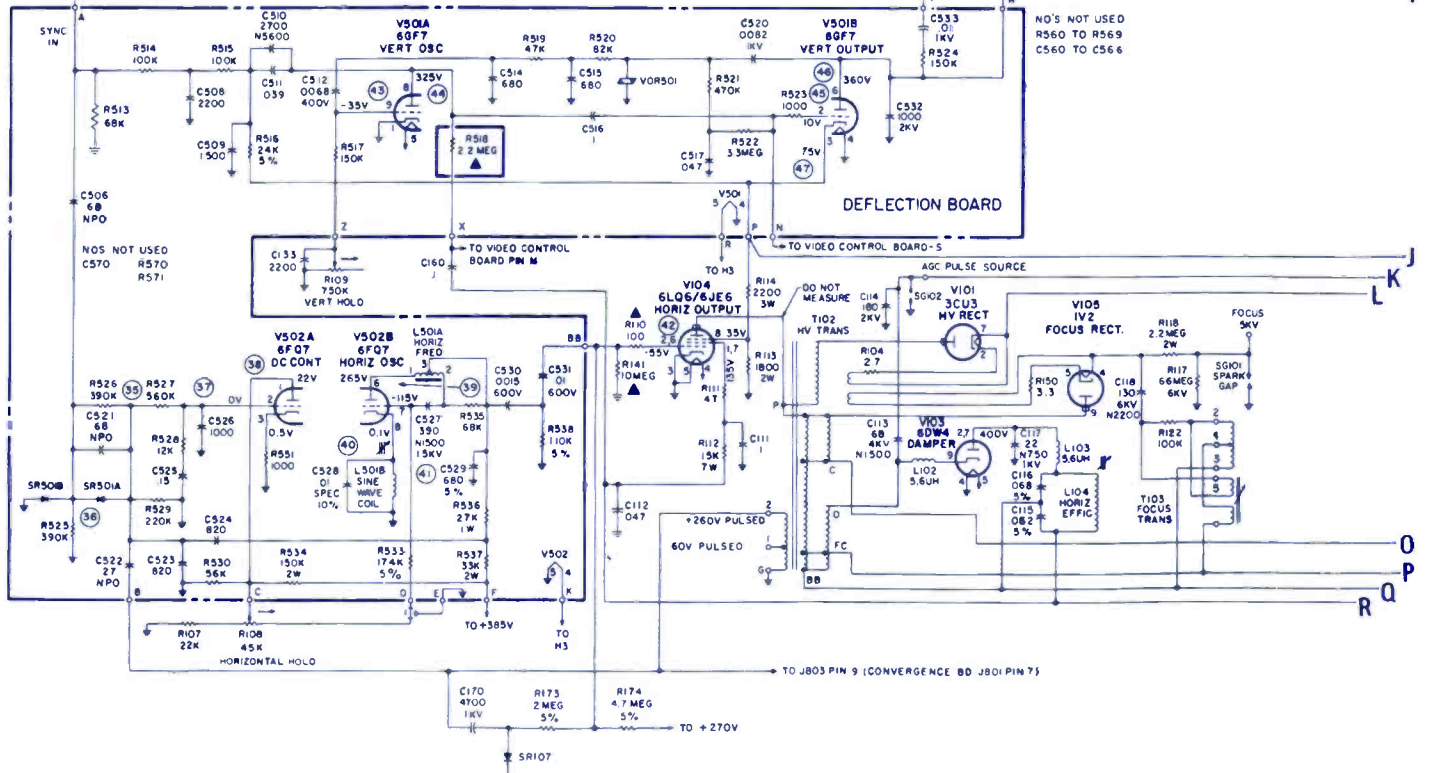
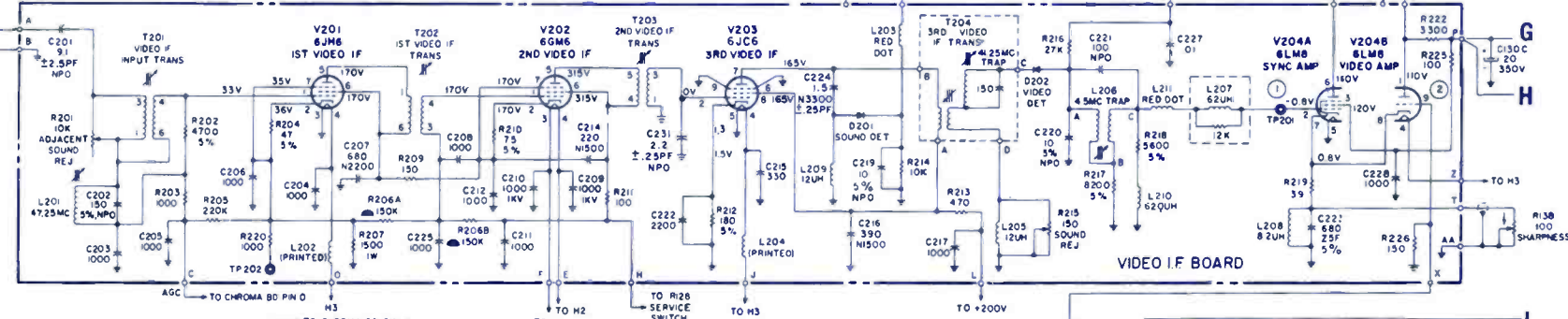
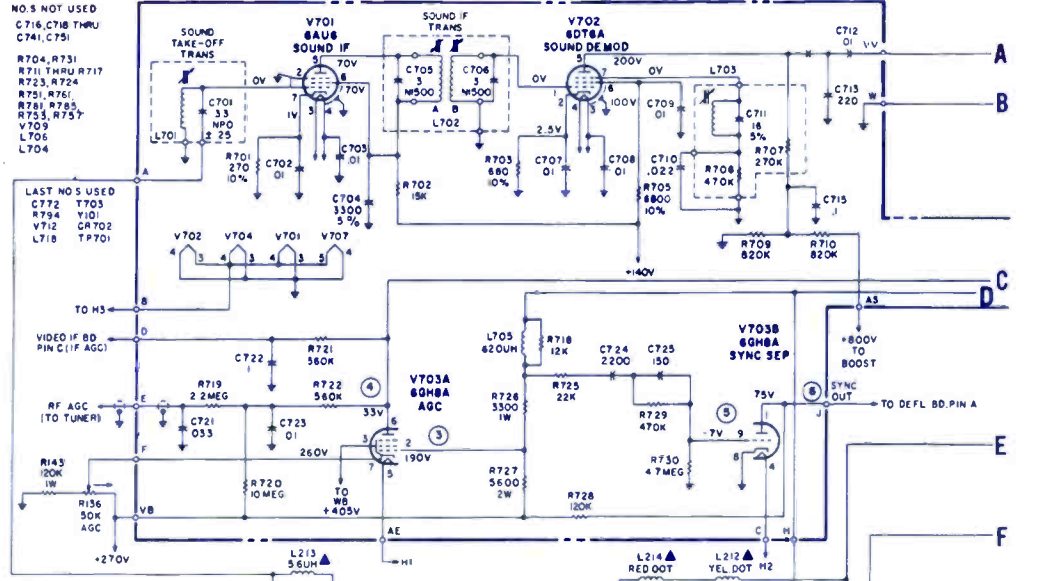
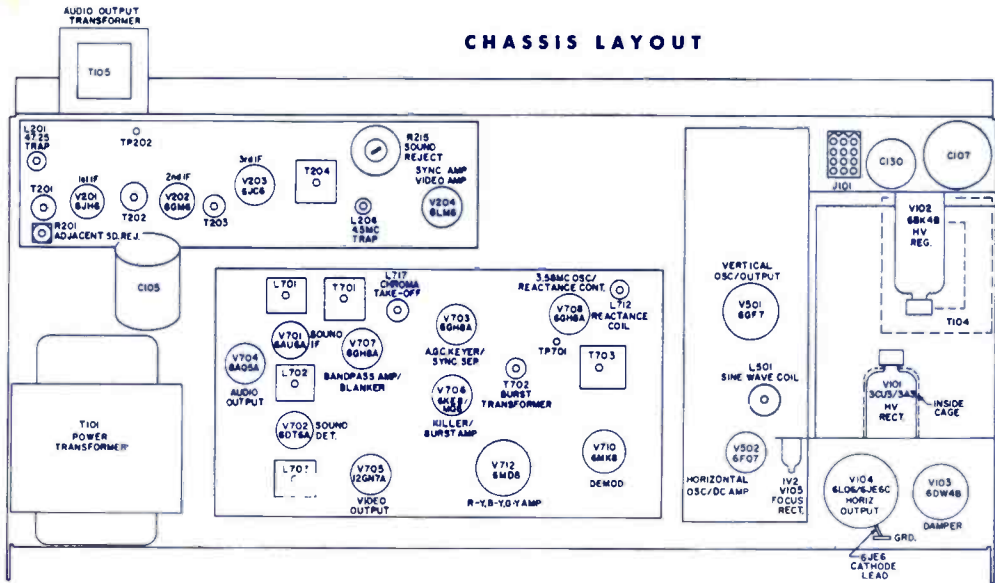




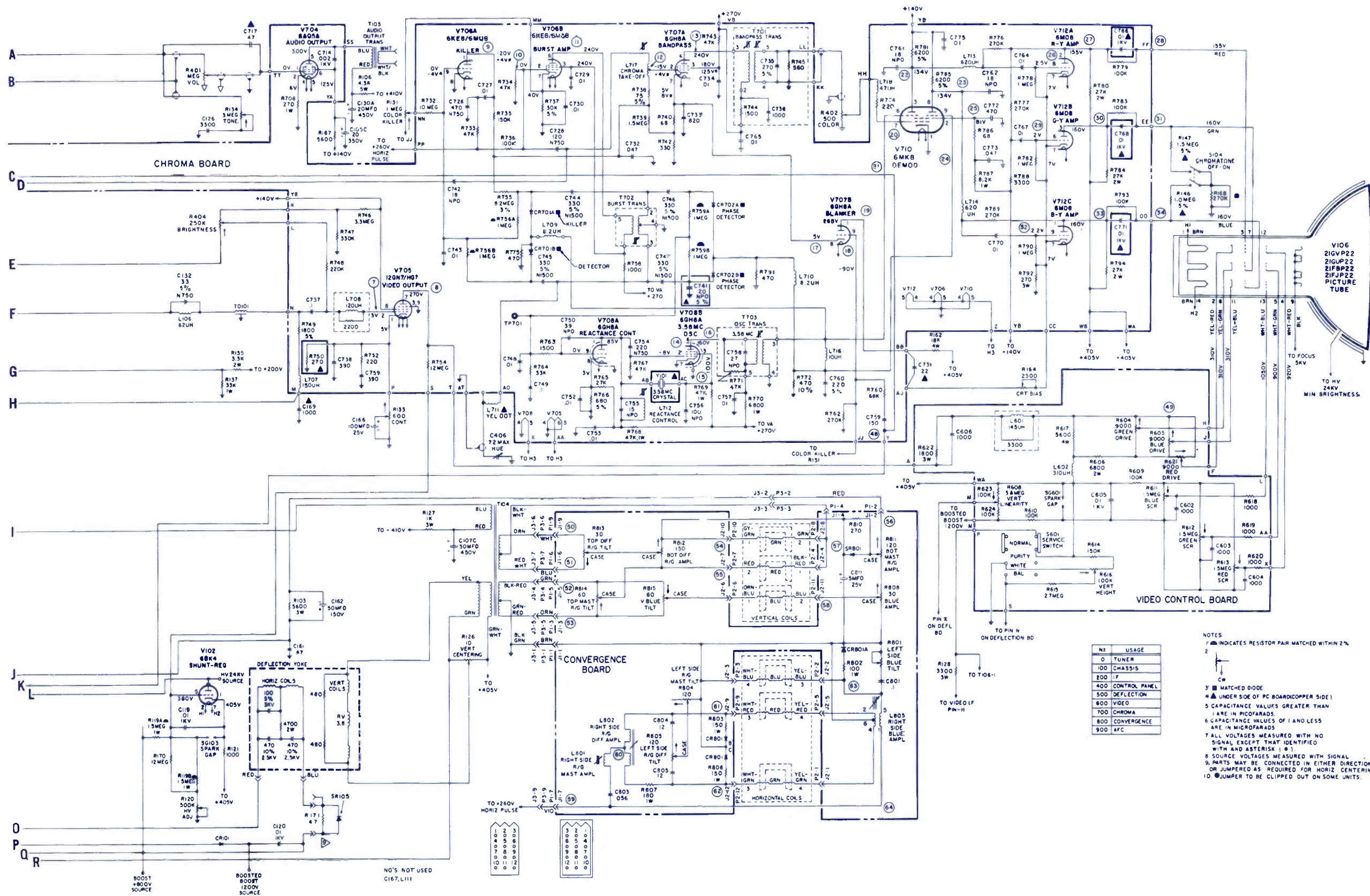
NOTES: UNLESS OTHERWISE INDICATED  
 1. ALL RESISTORS IN  $\Omega$ , SWIFT  
 2. ALL CAPACITORS 20% TOL.  
 3.  $\Delta$  INDICATES 10% CAPACITOR TOLERANCE.  
 4. CAPACITANCE VALUES OF 1 OR MORE ARE IN PICO-FARADS.  
 5. CAPACITANCE VALUES LESS THAN 1 ARE IN MICRO-FARADS.  
 6. VOLTAGE READINGS TAKEN FROM POINT INDICATED TO GROUND, NO SIGNAL APPLIED. CONTRAST AND AGC FULLY COUNTERCLOCKWISE. OTHER CONTROLS SET FOR NORMAL PICTURE WITH 110 LINE VOLTS.  
 7.  $\odot$  INDICATES VOLTAGE READINGS TAKEN USING COLOR BAR SIGNAL. CONTROLS SET FOR NORMAL PATTERN.  
 8. TO ADJUST VERTICAL CENTER, CONNECT VERT. OUTPUT TRANS. (T902) PIN 8 TO B1, B3 OR B4.  
 9. CIRCLED NUMBERS REFER TO WAVE FORMS.  
 10. EP DENOTES EARLY PRODUCTION.



CHASSIS LAYOUT





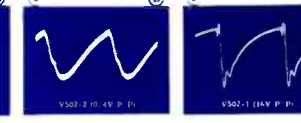
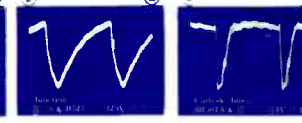
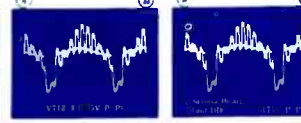
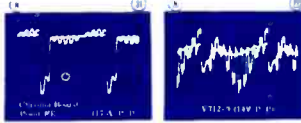
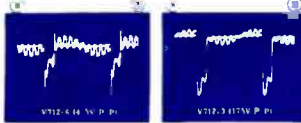
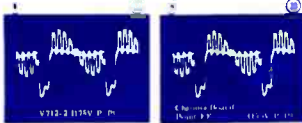
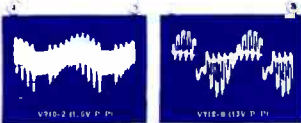
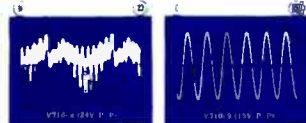
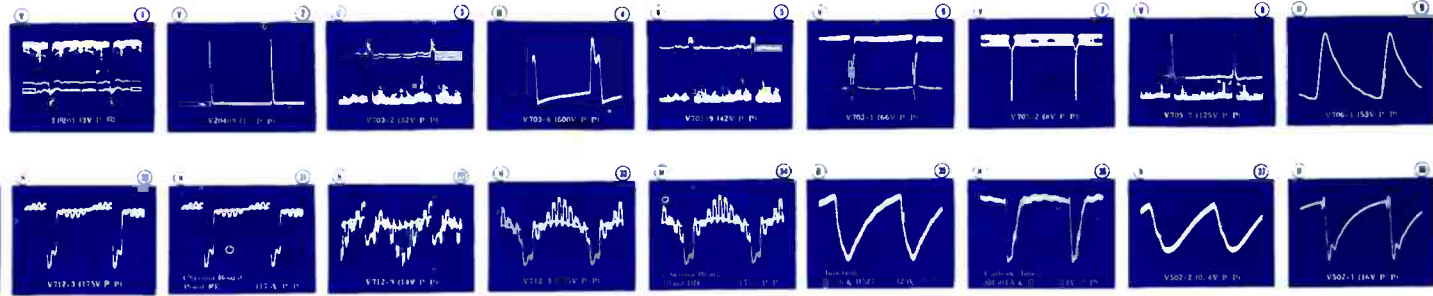




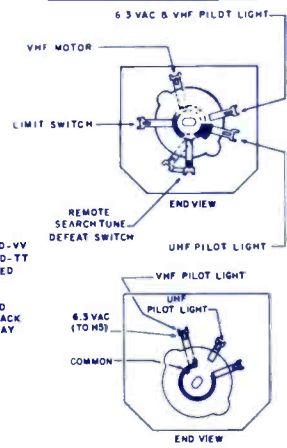
MAGNAVOX

Color TV  
Chassis T933

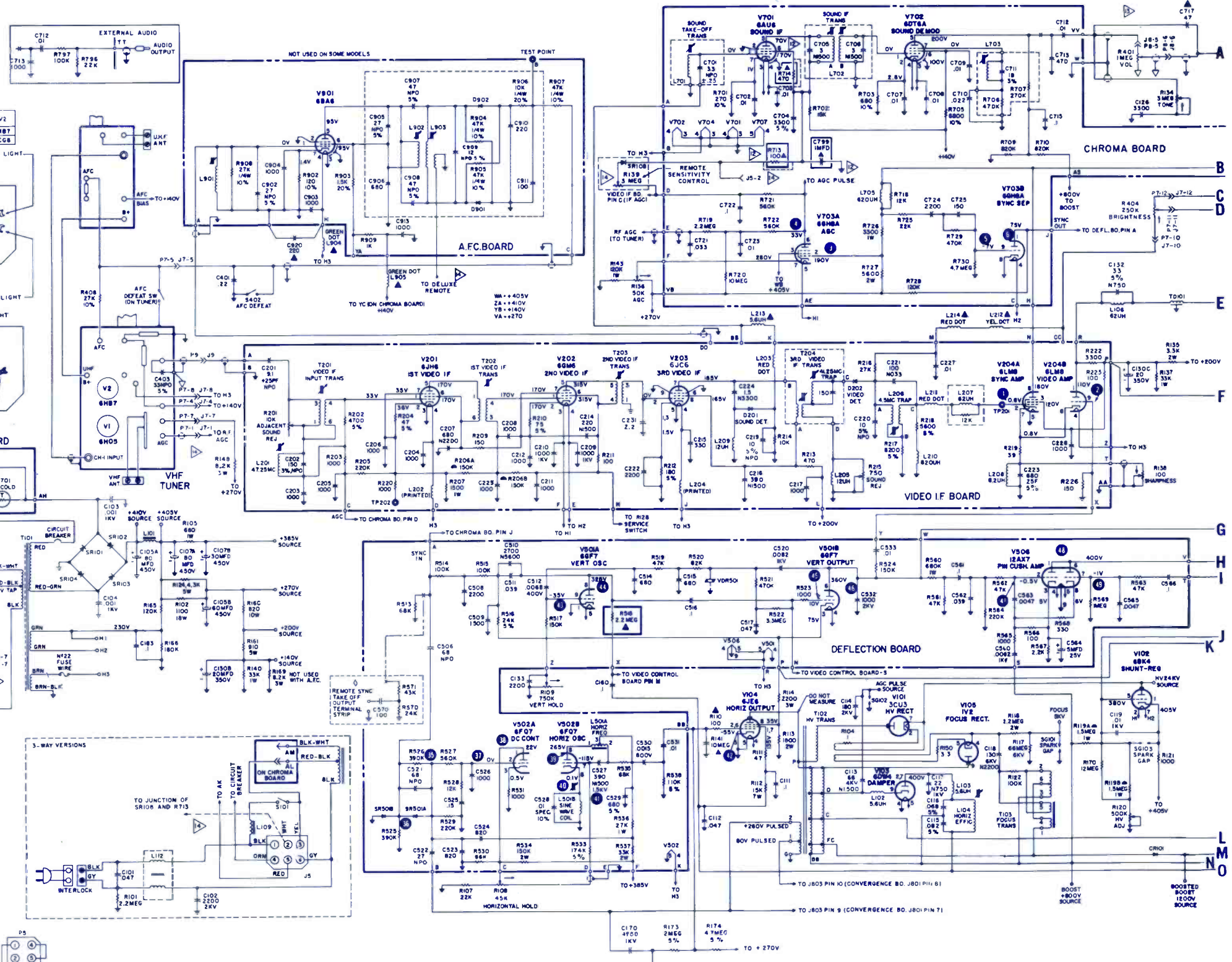
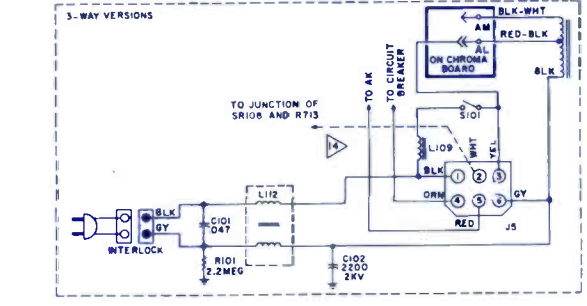
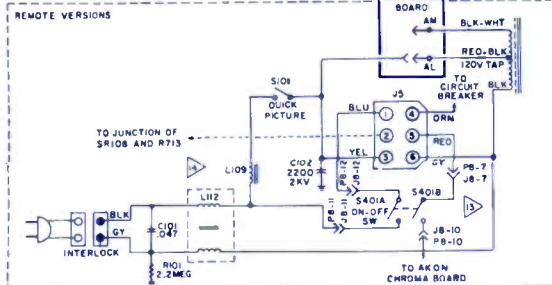
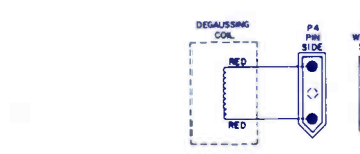
ELECTRONIC TECHNICIAN / DEALER **TEKFAKX**



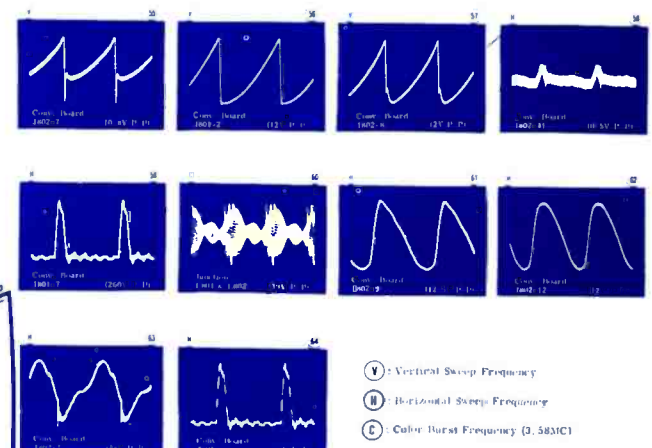
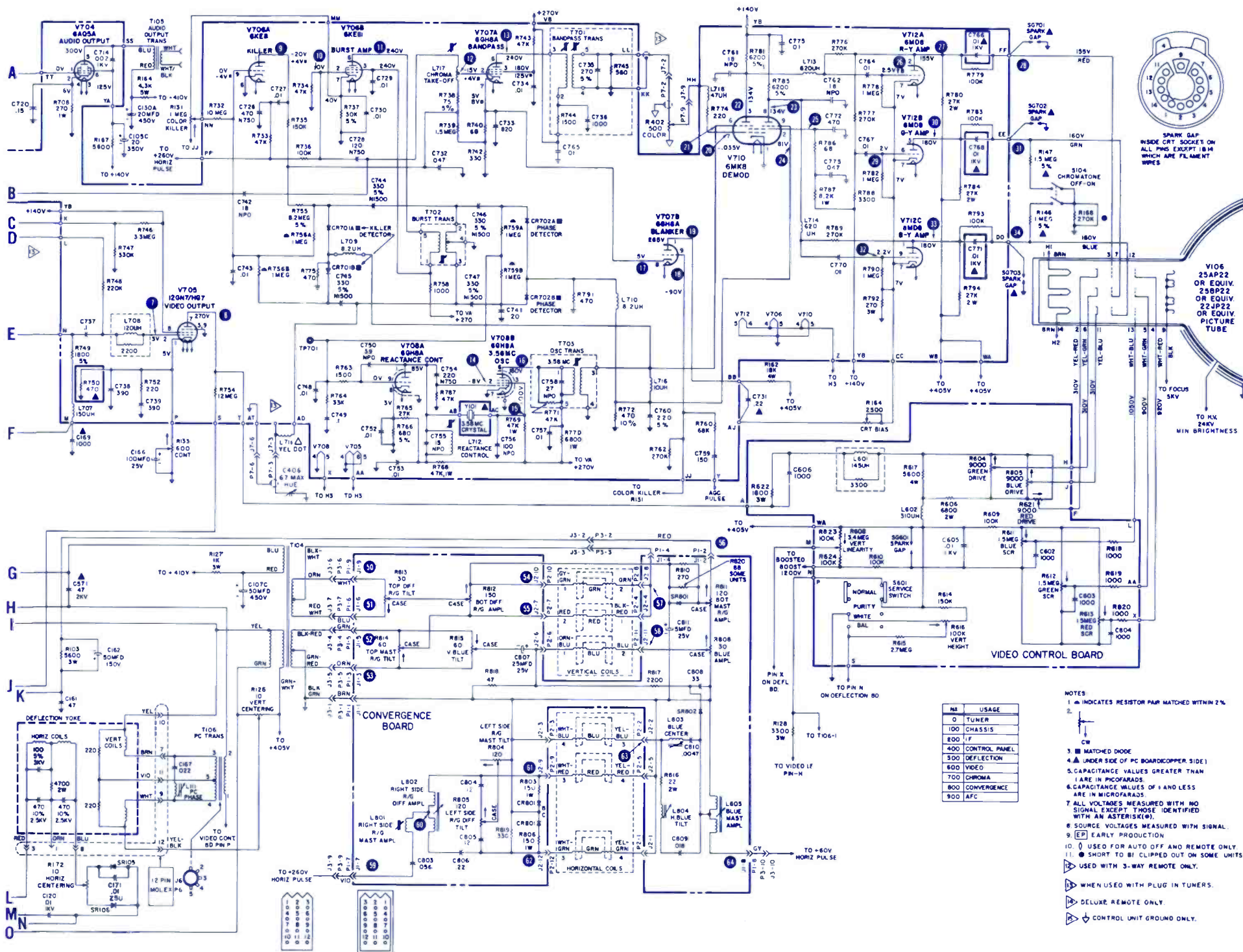
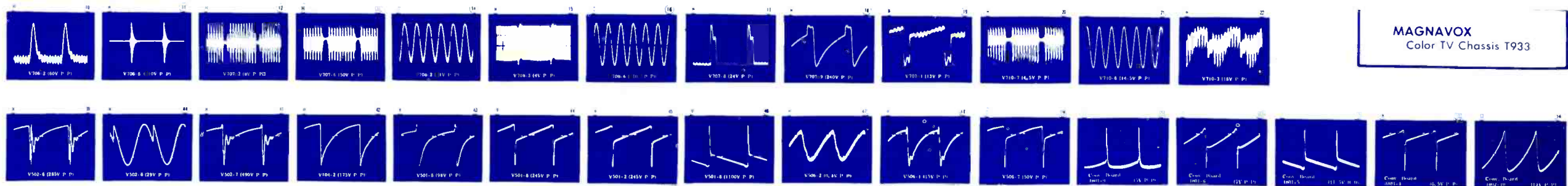
VHF TUNER	VHF TUNER	V1	V2
340125	340126	6M05	6M87
340139	340137	6GK5	6CG8



- J7-1 CHROMA BD-E
- J7-2 CHROMA BD-LL
- J7-3 CHROMA BD-V
- J7-4 #140V
- J7-5 AFC BD-C
- J7-6 GROUND
- J7-7 # 270V
- J7-8 CHROMA BD-HM
- J7-9 IF BD-CC
- J7-10 CHROMA BD-L
- J7-11 CHROMA BD-K
- J7-12 CHROMA BD-K
- J8-4 GROUND
- J8-5 CHROMA BD-VV
- J8-6 CHROMA BD-TT
- J8-7 S401B RED
- J8-10 S401B RED
- J8-11 S401A BLACK
- J8-12 S401B GRAY







**WAVE FORMS & PEAK TO PEAK VOLTAGES**

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T101	power xformer	300251-1
T102	horiz output xformer	361197-2
T103	focus xformer	361306-1
T104	vert output xformer	320217-2
T105	audio output xformer	320130-3
T106	pin cushion xformer	361134-3
T701	bandpass xformer	361192-1
T703	3.58MHz xformer	361198-2
L101	reac choke	320124-6
L104	horiz efficiency coil	361022-3
L112	line radiation choke	361250-1
L501	horiz osc & sin wave coil	360960-3
L701	sound take-off coil	360845-2
L702	sound IF coil	360846-3
L703	4.5MHz quad coil	360847-2
L713	620µh peak coil	360853-11
L717	chroma take-off coil	360959-5
	def yoke	361290-102
C105	elect 80/80µf 450v 20µf 350v	270071-12
C105	elect 80/80µf 450v (ext. audio version)	270071-13
C107	elect 80/30/50µf 450v	270071-7
C113	cer 68pf 10% 4000v (N1500)	250475-24
C130	elect 20µf 450v 20/20µf 350v	270023-42
C130	elect 20µf 450v 20µf 350v (ext. aud ver)	270023-43
C529	micro 68pf 5% 500v	250364-350
C570	micro 100pf 10% 500v	250224-430
R102	1.1K 10% 18w (WW)	240088-4
R103	5.6K 10% 3w (fixed film)	230193-5629
R112	15K 10% 7w (fixed film)	230197-1539
R117	66M 20% (6kv breakdown)	230161-3
R160	820 10% 10w WW	240082-71
R765A,B	1M 10% 5w matched within 2%	230144-98
R759A,B	1M 10% 5w matched within 2%	230144-98
C406	5.2pf = 67pf (int)	see chart
R108	45K horiz hold	220146-69
R109	750K vert hold	220146-50
R120	500K vert hold	220189-4
R126	10 vert cen	220181-1
R131	1M color killer	220208-34
R133	600Ω contr	220146-29
R134	3M one	220146-26
R136	50K oge	220208-33
R138	100 sharpness	220146-62
R139	3M remote control sensitivity	220208-51
R164	2500 CRT bias	220181-11
R172	horiz cen	220181-12
R201	10K adj sound rej	220182-1
R215	750 sound rej	220166-4
R401	1M val	see chart
R402	500 color	see chart
R404	250K bright	see chart
R605	9000 blu dr	220166-24
R611	1.5M blu sen	220166-17
RV701	thermistor	230170-2
TD101	delay line	360949-5
VDR501	varistor	230167-5
VDR701	varistor	230175-2
	cir brkr	180723-2



# MAGNAVOX

TV Chassis T916  
Series

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
<b>XFORMERS &amp; COILS</b>		
L1	IF input coil	360848-3
L2	47.25MHz trap	360842-1
L4	2nd IF xformer	360951-7
L5	3rd IF xformer	361161-2
L7	1-tweet coil	361157-1
L8	peaking coil	360853-1
L10	4.5MHz trap	360851-2
L11	sound take-off coil	360845-3
L12	sound interstage xformer	361251-1
L13	quad coil	360847-3
L14	ringing coil horiz hold	361171-2
L15	1-tweet coil	360783-4
L17	filter reactor	320335-1
L18	line coil	361075-3
T1	vert output xformer	320119-4
T2	audio output xformer	320334-1
T3	horiz output xformer	361265-2
	deflection yoke	361264-1

CAPACITORS: 20%, 500v unless noted otherwise		
C22	1kpf, 2kv cer	250569-8
C43	.027μf, 10% 1kv special paper	250290-13
C36	150pf, 10% 4kv cer	250475-35
C57	200μf, 200v, 300μf, 40μf, 150v, elect	270099-1
C70	39-pf, 5%, polystyrene	250525-3912
RESISTORS: 10%, 1/2w unless noted otherwise		
R38	270Ω, 3w	
R66	4.7Ω WW fuseable	240098-1
CONTROLS		
R18	25K, contrast	220231-1
R23	200K, bright	220231-1
R36	500K, vol w/ac switch	220231-1
R39	5M, vert lin	220233-1
R43	1M, vert hold	220233-1
R46	2M, height	220233-1
MISCELLANEOUS		
PC1	printed pac	250526-2
VDRI	VDR	230167-2
	VHF tuner	340106-3
	UHF tuner	340122-1

## SPECIFICATIONS

Power Source Rating  
Frequency  
Voltage  
Wattage

60 Cycles  
120 Volts  
115 Watts

IF System  
Picture IF  
Sound IF  
Intercarrier Sound IF

45.75MC  
41.25MC  
4.5MC

Tuning Range

Channels 2-83

Audio System

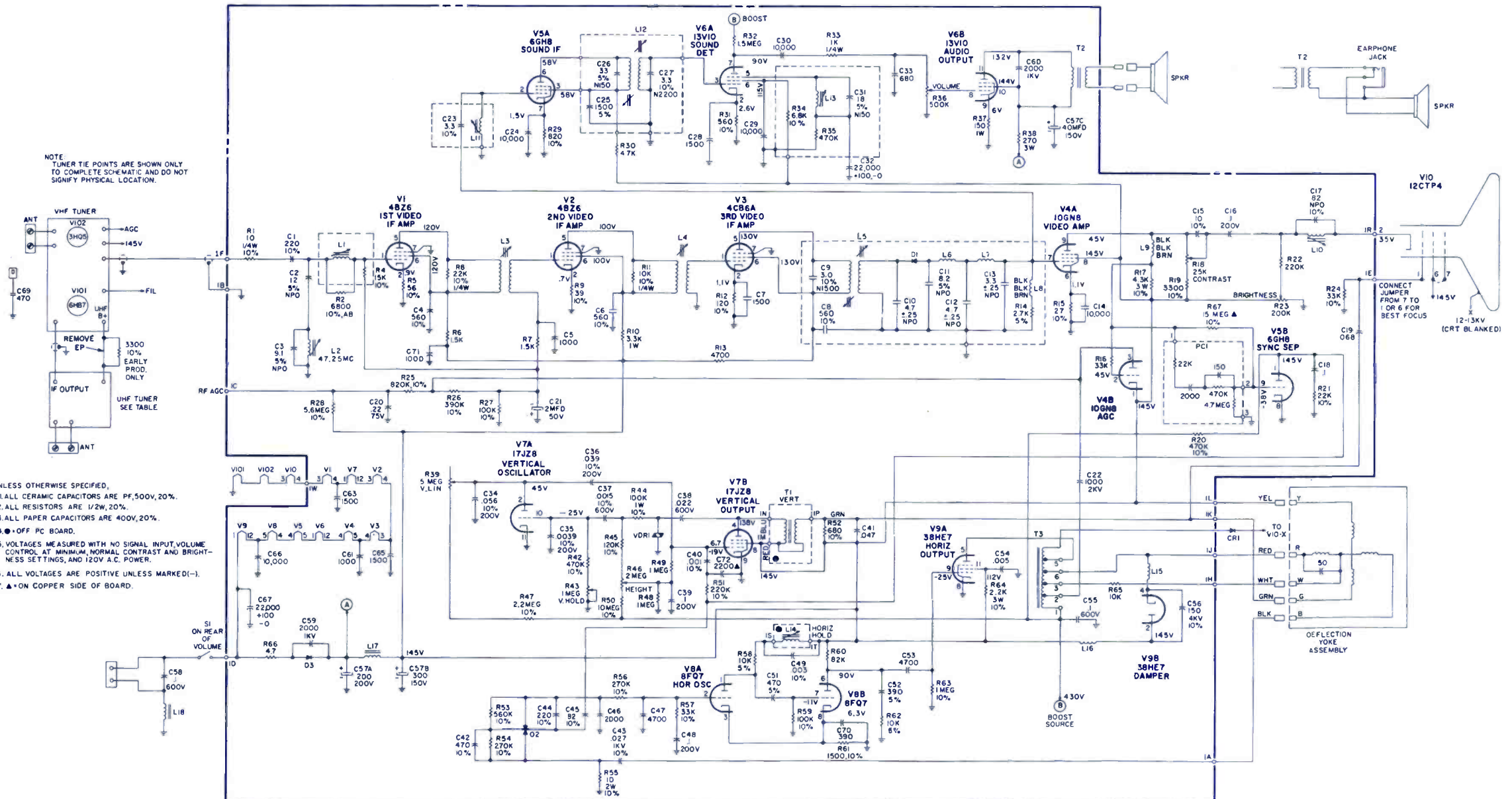
3.2 Ohms  
1 Watt

Antenna Input Impedance

Balanced 300Ohms

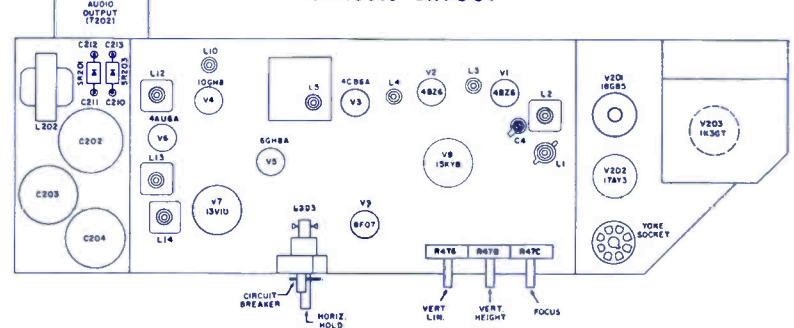
Output Impedance  
Power Output

NOTE  
TUNER TIE POINTS ARE SHOWN ONLY TO COMPLETE SCHEMATIC AND DO NOT SIGNIFY PHYSICAL LOCATION.

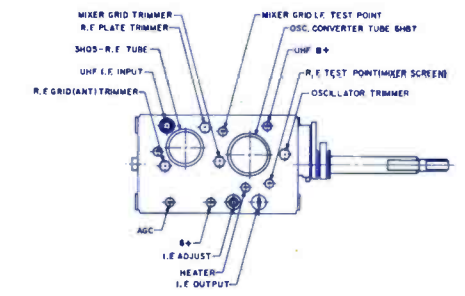


- UNLESS OTHERWISE SPECIFIED,  
1. ALL CERAMIC CAPACITORS ARE PF, 500V, 20%.  
2. ALL RESISTORS ARE 1/2W, 20%.  
3. ALL PAPER CAPACITORS ARE 400V, 20%.  
4. ● OFF PC BOARD.  
5. VOLTAGES MEASURED WITH NO SIGNAL INPUT, VOLUME CONTROL AT MINIMUM, NORMAL CONTRAST AND BRIGHTNESS SETTINGS, AND 120V A.C. POWER.  
6. ALL VOLTAGES ARE POSITIVE UNLESS MARKED (-).  
7. ▲ ON COPPER SIDE OF BOARD.

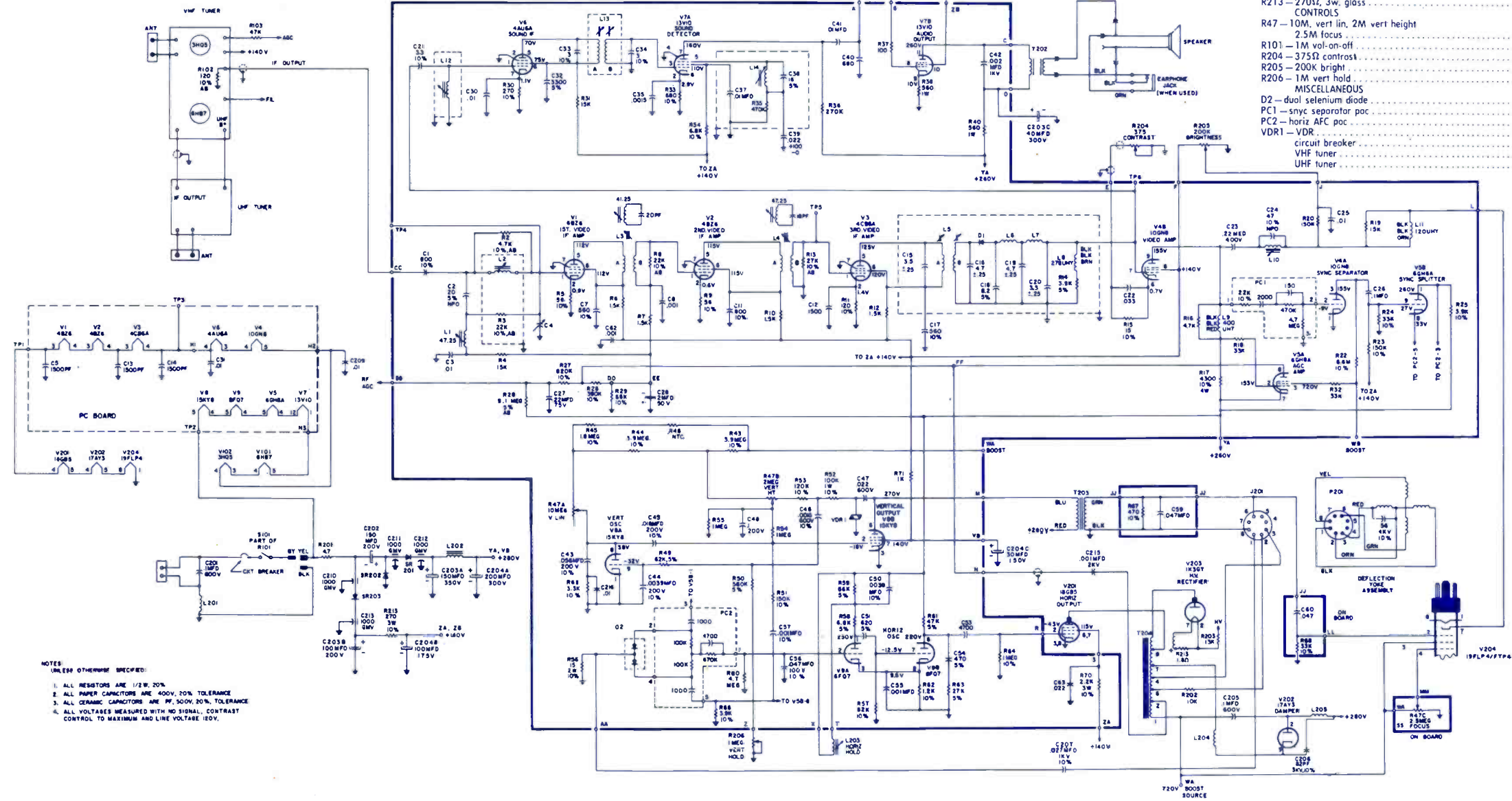




VHF TUNER LAYOUT



NOTE: TUNER TIE POINTS ARE SHOWN ONLY TO COMPLETE SCHEMATIC AND DO NOT SHOW PHYSICAL LOCATIONS



- NOTES  
UNLESS OTHERWISE SPECIFIED:
1. ALL RESISTORS ARE 1/2W, 20%
  2. ALL PAPER CAPACITORS ARE 400V, 20% TOLERANCE
  3. ALL CERAMIC CAPACITORS ARE PF, 50V, 20% TOLERANCE
  4. ALL VOLTAGES MEASURED WITH NO SIGNAL, CONTRAST CONTROL TO MAXIMUM AND LINE VOLTAGE 120V.

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
<b>XFORMERS &amp; COILS</b>		
L1	47.25MHz trap	360842-1
L2	IF input coil	360848-1
L3	1st IF xformer	361170-1
L5	3rd IF xformer	361161-1
L7	44.86 & 177MHz tweet coil	361157-1
L8	278µhy peaking coil	360853-1
L9	400µhy peaking coil	360853-7
L10	4.5MHz trap	360851-1
L12	sound take-off coil	360845-1
L14	quod coil	360847-2
L202	reactance choke early production	320078-2
L202	reactance choke	320348-1
L203	horiz oscillator coil	361171-2
L204	RF choke	360783-2
T202	audio output xformer	320346-1
T203	vert output xformer	320345-1
T204	horiz output xformer	361294-1
	deflection yoke	361304-2
<b>CAPACITORS: 20%, 500v unless noted otherwise</b>		
C4	1.5pf cer trimmer	250371-2
C18	8.2pf, 5% cer	250546-8295
C42	1kv .002µf, cer	250402-4
C202	150µf, 200v elect	270071-17
C203	150µf/350v, 40µf/300v, 100µf/200v, elect	270071-14
C204	200µf/300v, 100µf/175v, & 30µf/150v elect	270071-13
C207	.027µf, 10% 1kv paper (oil filled)	250290-16
<b>RESISTORS: 1/2w, 10% unless noted otherwise</b>		
R17	4.3K, 4w, glass	230194-4329
R46	thermistor (NTC)	230130-2
R201	4.7K 7w WW	240081-19
R213	270Ω, 3w, glass	230150-304
<b>CONTROLS</b>		
R47	10M, vert lin, 2M vert height	220218-2
	2.5M focus	220135-31
R101	1M vol-on-off	220232-10
R204	375Ω contrast	220232-10
R205	200K bright	220208-48
R206	1M vert hold	220208-50
<b>MISCELLANEDUS</b>		
D2	dual selenium diode	530045-4
PC1	sync separator poc	250526-2
PC2	horiz AFC poc	250377-1
VDR1	VDR	230167-2
	circuit breaker	180723-3
	VHF tuner	340089-3
	UHF tuner	340087-4



MAGNAVOX

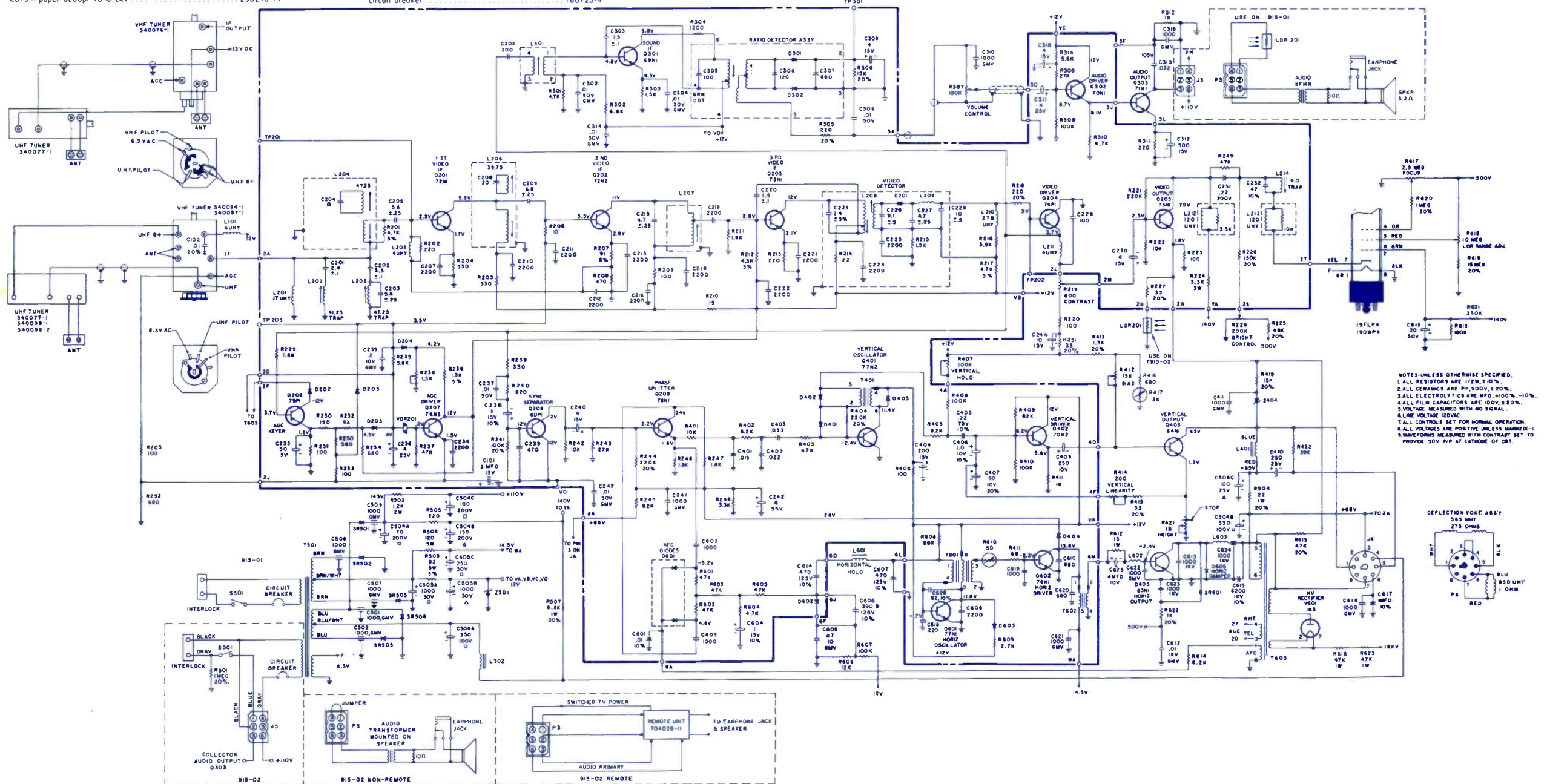
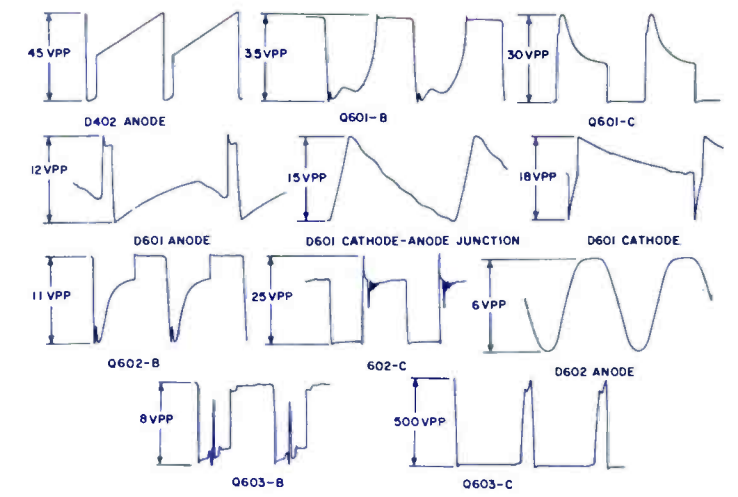
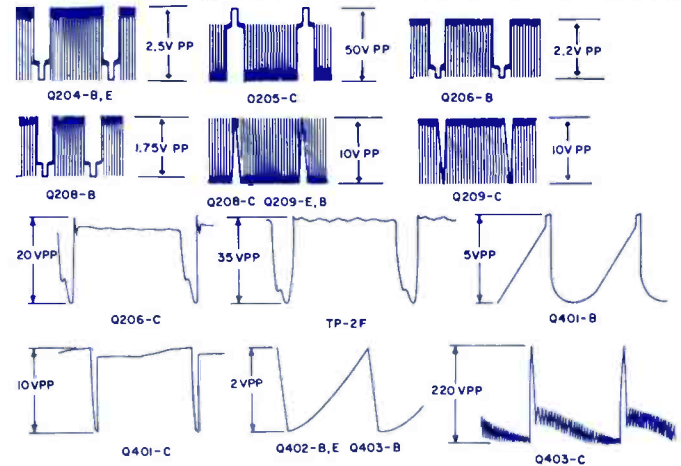
TV Chassis T915 Series

ELECTRONIC TECHNICIAN / DEALER TEKFAK

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T301	audio output xformer (T915-15-FC)	320330-4
T401	vert osc xformer	320322-1
T501	power xformer	300233-2
T601	horiz osc xformer	320323-1
T602	horiz driver xformer	361160-1
T603	horiz output xformer	361308-1
L101	RF choke	361159-1
L202	41.25MHz trap	361152-1
L203	47.25MHz trap	360843-1
L206	1st IF & 39.75MHz trap	361154-1
L207	2nd IF xformer	361155-1
L208	3rd IF xformer	361156-1
L209	tweet coil	361157-1
L212	peaking coil 120uhy	360853-9
L214	4.5MHz trap	360851-1
L301	sound take-off xformer	361149-1
L302	ratio detector xformer	361150-1
L401	vert output choke	320319-2
L502	filter reactor	320321-1
L601	horiz ringing coil	361196-1
L602	RF choke	360676-10
L603	suppressor coil	361077-2
	deflection yoke	361162-3
C223	cer 24pf 5% NPO	250546-2405
C504	elect 70/150/100uF 200v	270021-119
C505	elect 1000/1000/250uF 30v	270021-125
C506	elect 350/350uF 100v 100uF 75v	270023-118
C615	paper 8200pf 10% 2kv	250290-17

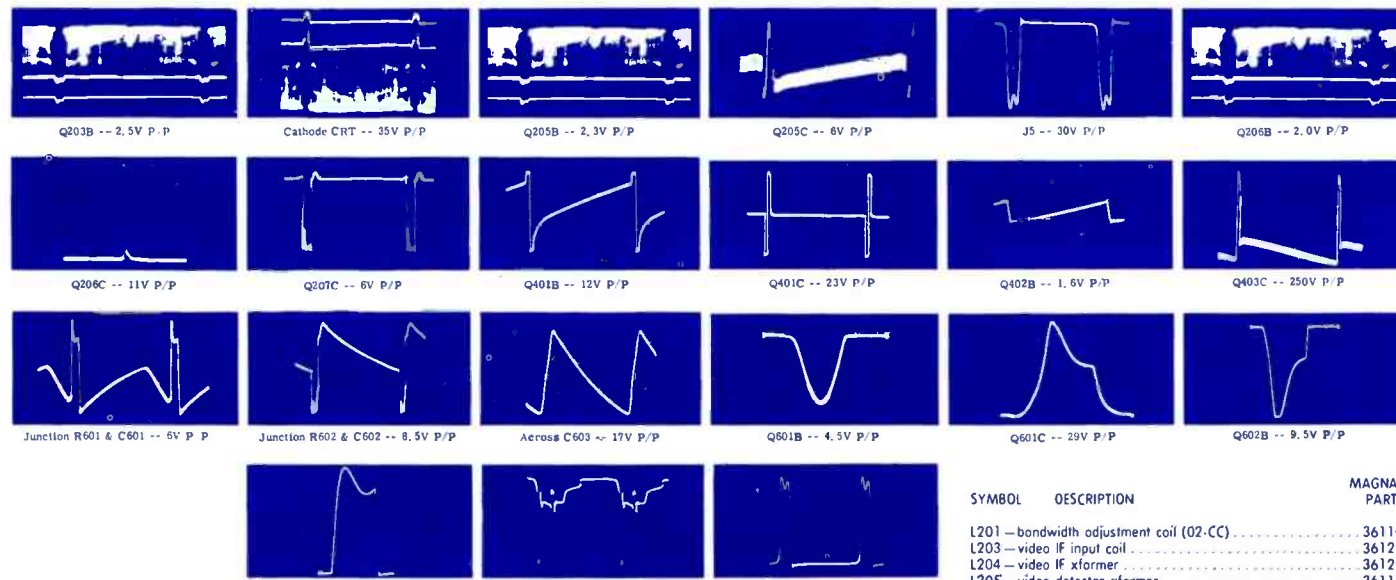
R417	thermistor NTC	230171-1
R417	thermistor NTC FC production	230172-3
R505	82 5% 5w WW	240080-147
R506	120 10% 5w WW	240080-51
R610	thermistor NTC	230172-1
R219	600 contrast T915-01, 03, 04, 07, 15	220208-37
R219	600 contrast T915-02, 06, 14	220208-18
R219	600 contrast T915-05	220126-99
R228	200K brightness T915-01, 03, 04, 07, 15	220208-27
R228	200K brightness T915-02, 05	220208-19
R228	400K brightness T915-06, 14	220208-39
R236	1500 AGC AA & AB production only	220182-2
R236	1500 AGC	220217-5
R307	100K on-off val T915-01, 03, 04, 07, 15	220135-26
R307	100K on-off val T915-02	220135-19
R307	100K on-off val T915-05, 06	220126-98
R407	120K vert hold T915-01, 03, 04, 07, 15	220208-41
R407	120K vert hold T915-02, 05, 06, 14	220208-40
R412	15K vert bias	220208-36
R414	200 vert lin	220208-23
R421	15 height	220167-8
R617	2.5M focus	220208-25
R618	10M LDR range adjust	220208-24
D601	dual selenium diode	530045-4
O602	horiz AFC varicap	530112-1
Z404	zener diode	530117-1
Z501	zener diode	530073-13
LDR201	light dependent resistor	230180-7
VDR201	voltage dependent resistor	230173-1
	circuit breaker	180723-4

P/P VOLTAGE & WAVEFORMS (CONTRAST CONTROL SET TO PROVIDE 50V P/P AT CRT CATHODE)



NOTES: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/2W, 20%. ALL CERAMICS ARE PF, 500V, 20%. ALL ELECTROLYTICS ARE MFD, +100V, -10%. ALL FILM CAPACITORS ARE 100V, 20%. VOLTAGE MEASURED WITH NO SIGNAL. BLU LINE VOLTAGE 100V. TALL CONTROLS SET FOR NORMAL OPERATION. ALL VOLTAGES ARE POSITIVE UNLESS MARKED (-). WAVEFORMS MEASURED WITH CONTRAST SET TO PROVIDE 50V P/P AT CATHODE OF CRT.





- NOTES:
- UNLESS OTHERWISE SPECIFIED, RESISTORS: 1/2W, 5% 10%, CAPACITORS: DISC, 500V, 20%, PF ELECTROLYTICS MF +100-10%.
  - ▲ OFF BOARD.
  - VOLTAGES MEASURED WITH NO SIGNAL INPUT VOLUME CONTROL AT MINIMUM, NORMAL CONTRAST AND BRIGHTNESS SETTINGS, AND 120 VAC POWER.
  - ALL VOLTAGES ARE POSITIVE UNLESS MARKED (-).
  - Z201 MAY USE THE BASE/EMITTER JUNCTION OF A SPECIAL TRANSISTOR.
  - Z401 MAY USE THE BASE/COLLECTOR JUNCTION OF A SPECIAL TRANSISTOR.

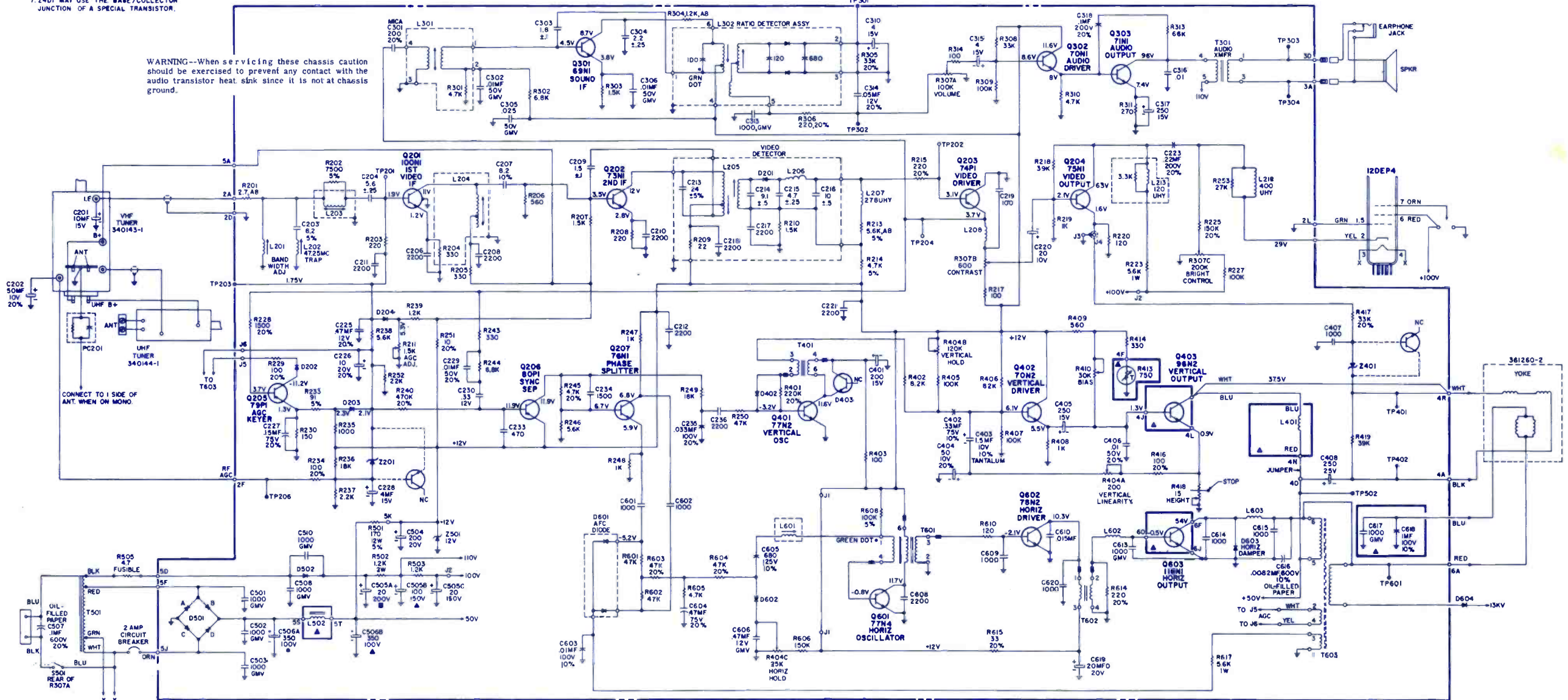
**P/P VOLTAGES AND WAVEFORMS**

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L201	bondwidth adjustment coil (02-CC)	361101-4
L203	video IF input coil	361257-1
L204	video IF xformer	361258-1
L205	video detector xformer	361156-2
L207	278μH peaking coil	360853-6
L208	45MHz decoupling coil	361159-1
L301	4.5MHz sound take-off coil	361149-1
L302	ratio detector xformer	361150-1
L401	vert output reactance (01-AA)	320319-3
L401	vert output reactance (01-BB, 02-CC)	320319-4
L502	filter reactance (01-AA)	320321-3
L601	horiz ringing coil	361263-1
L603	suppressor coil	361077-3
T301	audio output xformer (01-AA, 01-BB)	320336-1

T301	audio output xformer (02-CC)	320336-2
T401	vert blocking osc xformer	320322-1
T501	power xformer (01-AA)	300241-1
T501	power xformer (01-BB, 02-CC)	300241-2
T601	horiz blocking osc xformer	320323-1
T602	horiz driver xformer	320338-1
T603	horiz output xformer (01-AA)	361261-1
T603	horiz output xformer (01-BB, 02-CC)	361301-1
	deflection yoke (01-AA, 01-BB)	361260-1
	deflection yoke (02-CC)	361260-2
C505	elect 20μF 200V 100/20μF 150V	270099-3
C506	elect 350/350μF 100V 100μF 75V (01-AA)	270099-2
C506	elect 350/350μF 100V (01-BB, 02-CC)	270099-4
C616	paper .01μF 10% 2kV (01-AA, 01-BB)	250290-18
C616	paper .0082μF 10% 2kV (02-CC)	250290-17
R213	5600 5%	230144-177
R214	4700 5%	230144-175
R233	915 5% (01-BB, 02-CC)	230144-134
R413	750Ω thermistor (NTC) (01-AA)	230172-2
R413	750Ω thermistor (NTC) (01-BB, 02-CC)	230172-3
R501	205 5% 10W WW (01-AA)	240082-1202
R501	170Ω 5% 12W WW (01-BB, 02-CC)	240088-5
R502	1500 2W (01-AA, 01-BB)	230146-64
R502	1200 2W (02-CC)	230146-63
R505	4.7Ω fusible	240098-1
R608	100K 5% 1/2W	230144-207
R211	1500Ω AGC control	220217-5
R307	(A,B,C) 100K volume 600 contrast 200K bright 5501 (01-BB, 02-CC)	220231-3
R404	(A,B,C) 200 vert lin 120K vert hold	

	25K horiz hold	220233-2
R410	30K vert bias	220217-7
R414	15Ω vert height	220167-9
Q201	100N1 silicon NPN transistor	610100-1
Q202	73N1 silicon NPN transistor	610073-1
Q203	74P1 silicon PNP transistor	610074-1
Q204	75N1 silicon NPN transistor	610075-1
Q205	79P1 germanium PNP transistor	610079-1
Q206	80P1 germanium PNP transistor	610080-1
Q207	76N1 silicon NPN transistor	610076-1
Q301	69N1 silicon NPN transistor	610069-1
Q302	70N1 silicon NPN transistor	610070-1
Q303	71N1 silicon NPN transistor	610071-1
Q401	72N1 silicon NPN transistor	610072-1
Q402	70N2 silicon NPN transistor	610070-2
Q403	96N2 silicon NPN transistor	610096-2
Q601	77N4 silicon NPN transistor	610077-4
Q602	78N2 silicon NPN transistor	610078-2
Q603	95N1 silicon NPN transistor (01-AA, 01-BB)	610095-1
Q603	116N1 silicon NPN transistor (02-CC)	610116-1
D603	dopmer diode	530119-2
Z201	zener diode	530138-1
Z401	zener diode (special)	530138-1
Z501	zener diode 12V	530073-14
	circuit breaker (01-AA)	180723-4
	UHF tuner (01-BB)	340105-2
	UHF tuner (02-CC)	340105-1
	VHF tuner (01-AA, 01-BB)	340110-2
	VHF tuner (02-CC)	340143-1
F501	fuse 1a 250V (01-AA only)	180475-B

WARNING--When servicing these chassis caution should be exercised to prevent any contact with the audio transistor heat sink since it is not at chassis ground.





COMPLETE MANUFACTURERS' CIRCUIT DIAGRAMS AND TECHNICAL INFORMATION FOR 6 NEW SETS

GENERAL SPECIFICATIONS

Power Source Rating  
 Frequency 60 Cycles  
 Voltage 120 Volts  
 Wattage 70 Watts  
 Wattage (RF Video Monitor Versions) 85 Watts

Antenna Input Impedance  
 VHF/UHF 300 ohms balanced  
 VHF (RF Video Monitor Versions) 72 ohms unbalanced or 300 ohms balanced

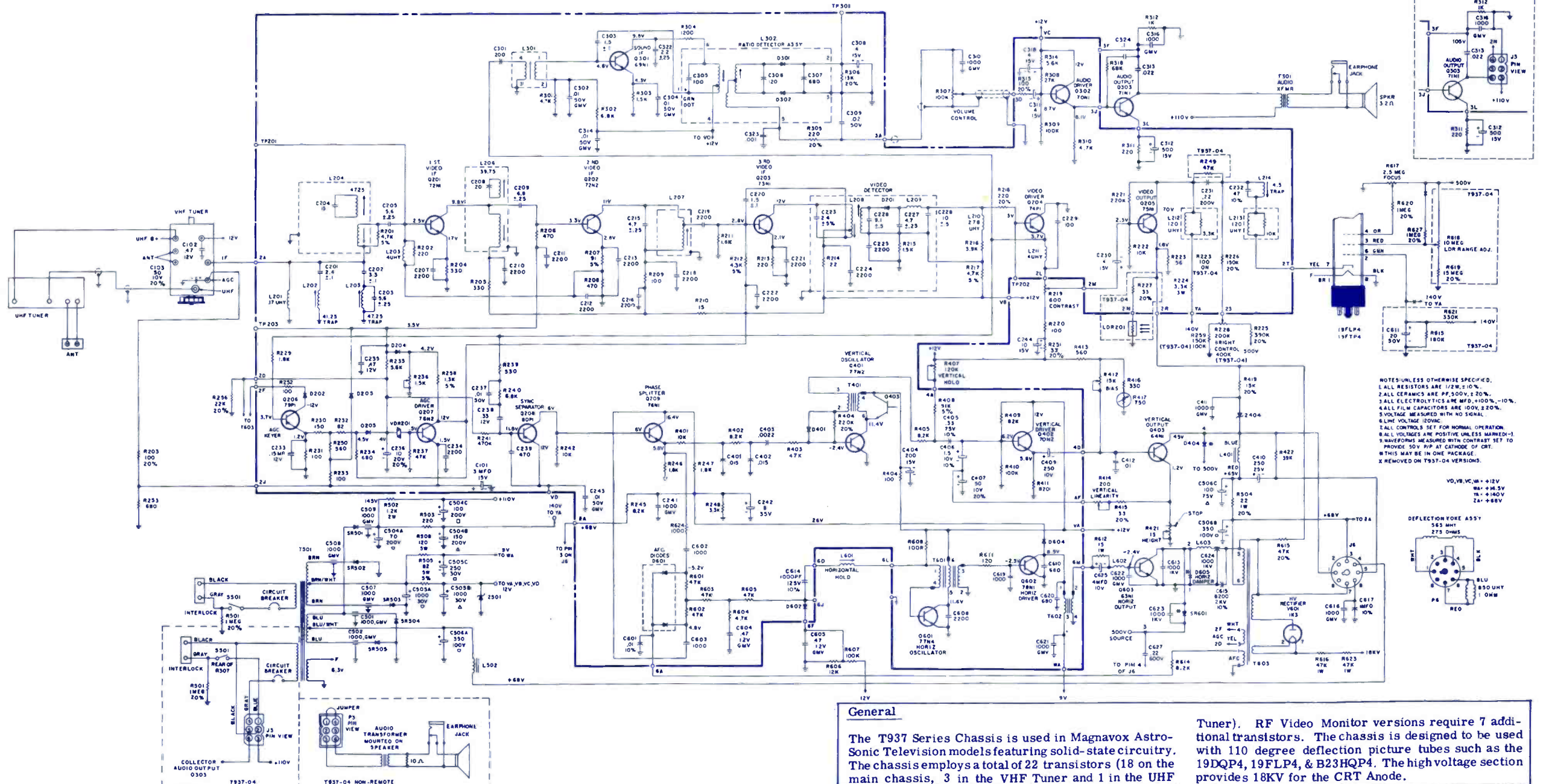
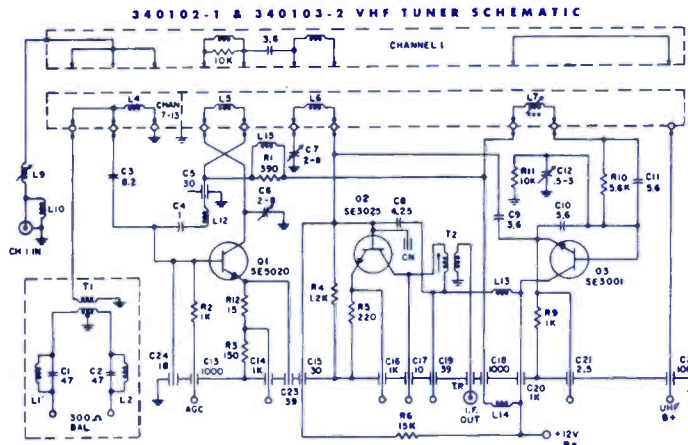
Tuning Range Channels 2-83

I-F System  
 Picture I-F 45.75MC  
 Sound I-F 41.25MC  
 Intercarrier Sound I-F 4.5MC

Audio System  
 Output Impedance 3.2 ohms  
 Power Output 1 Watt  
 Power Output (RF Video Monitor Versions) 5 Watts

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T301	audio output xformer (T937-03)	320330-4
T301	audio output xformer (T937-06, 07)	320349-2
T401	vert osc xformer	320322-1
T501	power xformer (T937-01, 06-07)	300256-1
T601	horiz osc xformer	320323-1
T602	horiz driver xformer	361160-1
T603	horiz output xformer	361308-1
L202	41.25MHz trap	361152-1
L203	47.25MHz trap	360843-1
L212	peak coil 120µH	360853-9
L214	4.5MHz trap	360851-1
L301	sound take-off xformer	361149-1
L302	ratio detector assem	361150-1
L401	vert output choke	320319-2
L502	filter reactor	320321-1
L601	horiz ringing coil	361196-2
L601	horiz ringing coil	361196-1
L601	horiz ringing coil	361162-2
L601	horiz ringing coil	361162-3
C504	elect 70/150/100µF 200v	270021-119
C505	elect 1000/1000/250µF 30v	270021-123

C506	elect 350/350µF 100v 100µF 75v	270021-118
R417	thermistor (NTC)	230172-3
R219	600Ω contr (T937-03)	220208-37
R219	600Ω contr (all others)	220208-18
R228	200K bright (01, 06, 07)	220208-19
R228	400K bright (02, 04)	220208-39
R228	200K bright (03)	220208-27
R236	1500Ω AGC	220217-5
R307	100K on-off-vol (01, 04, 06, 07)	220135-25
R307	100K on-off-vol (02)	220232-15
R307	100K on-off-vol (03)	220135-26
R313	5K tone (01, 06, 07)	220208-56
R407	120K vert hold (01, 02, 04, 06, 07)	220208-40
R407	120K vert hold (03)	220208-41
R412	15K vert bias	220208-36
R414	200Ω vert lin	220208-23
R421	15 height	220167-8
R606	25K horiz hold (01, 06, 07)	220208-22
R617	2.5M focus	220208-25
R618	10M LDR range adj	220208-24
LDR201	light dependent resistor	230180-1
VDR201	voltage dependent resistor	230173-1
	circuit breaker (01, 06, 07)	180723-5
	circuit breaker (02, 03, 04)	180723-4



NOTES: UNLESS OTHERWISE SPECIFIED,  
 1. ALL RESISTORS ARE 1/2W, ±10%.  
 2. ALL CAPACITORS ARE P.P.S. 50V, ±20%.  
 3. ALL ELECTROLYTICS ARE MFD, ±100%, -10%.  
 4. ALL FILM CAPACITORS ARE 100V, ±20%.  
 5. VOLTAGE MEASURED WITH NO SIGNAL.  
 6. LINE VOLTAGE IS 100V.  
 7. ALL CONTROLS SET FOR NORMAL OPERATION.  
 8. ALL VOLTAGES ARE POSITIVE UNLESS OTHERWISE SPECIFIED.  
 9. WAVEFORMS MEASURED WITH CONTRAST SET TO PROVIDE 50V P/P AT CATHODE OF CRT.  
 X. THIS MAY BE IN ONE PACKAGE.  
 Y. REMOVED ON T937-04 VERSIONS.

**General**  
 The T937 Series Chassis is used in Magnavox Astro-Sonic Television models featuring solid-state circuitry. The chassis employs a total of 22 transistors (18 on the main chassis, 3 in the VHF Tuner and 1 in the UHF Tuner). RF Video Monitor versions require 7 additional transistors. The chassis is designed to be used with 110 degree deflection picture tubes such as the 19DQP4, 19FLP4, & B23HQP4. The high voltage section provides 18KV for the CRT Anode.



C201 - .01µf 20% 2kv Z5U (use 21S129750)	21S180B15
C505 - 470pf 10% 500v silver mica	21S1005A39
C511 - 27pf 10% 4kv N1500 22T5611	21S180D82
C518 - 91pf 10% 5kv N1500	21S180A91
C802 - 150µf/350v 20µf/350v 200µf/175v	23C65807A21
120µf/175v lytic	23C65808A17
C803 - 20µf 175v lytic	51D6770A03
E100 - res-cop IF stock	51D6774A02
E400 - res-cop AGC	51D6770A02
E401 - res-cop clipper grid	80C68147A06
E502 - spark gap	51D6770A04
E601 - res-cop integrator	51D6770A04
E802 - circuit breaker	80C66390A17
L101 - 41.25MHz trap	24D6775A414
L102 - 47.25MHz trap	24D6775A09

L106 - compensating 100µh incls R115 18K	24D68002A12
L107 - 4.5MHz trap & ATO incls: R126, C114, L112	24V66552A63
L111 - compensating 300µh	24D68002A01
L112 - compensating 7.5µh	24D68002A30
L300 - quat incls C306 C307 R305 R306	24V66553A22
L500 - horiz osc incls core	24D68130A04
L501 - horiz suppressor	24C66772A05
L504 - horiz size & lin incls R521 18K-3w	24D69163A03
L701 - def yoke 114" 22T5611	24G10250A07
def yoke 114" 22T5611	24G10250A08
L800 - choke line incls slvg	24V68621A86
R122 - 6200 10% 7w WW	17S135556
R200 - varistor	6C66263A16
R619 - varistor	6C66263A07
R621 - thermistor yoke	6C65884A07
R802 - 27 10% 4w fxd mtl film	17S10130B17

R203 - brightness 100K (20T5611)	18D6696A20
brightness 100K (20T5611)	18D6696A19
18D6696A09	18D6696A09
R308 - vol 2M incls on/off switch (20T5611)	18D65083A55
vol 2M incls on/off switch (22T5611-use 18D68021A01)	18D68021A06
R404 - AGC 100K vert size 3.4M vert lin 500K	18D67678A02
R605 - vert hold 750K (20T5611)	18D6696A18
vert hold 750K (22T5611)	18D6696A21
R610 - AGC 100K vert size 3.4M vert lin 500K	18D67678A02
R614 - AGC 100K vert size 3.4M vert lin 500K	18D67678A02
Q100 - noise gate M4933/A1V	48S134933
T100 - 1st IF	24D6775A412
T101 - 2nd IF	24D6775A415
T102 - video detector	24V66552A61
T300 - 4.5MHz interstage	24V66552A64

TECHNICIAN / DEALER **WELFARE**

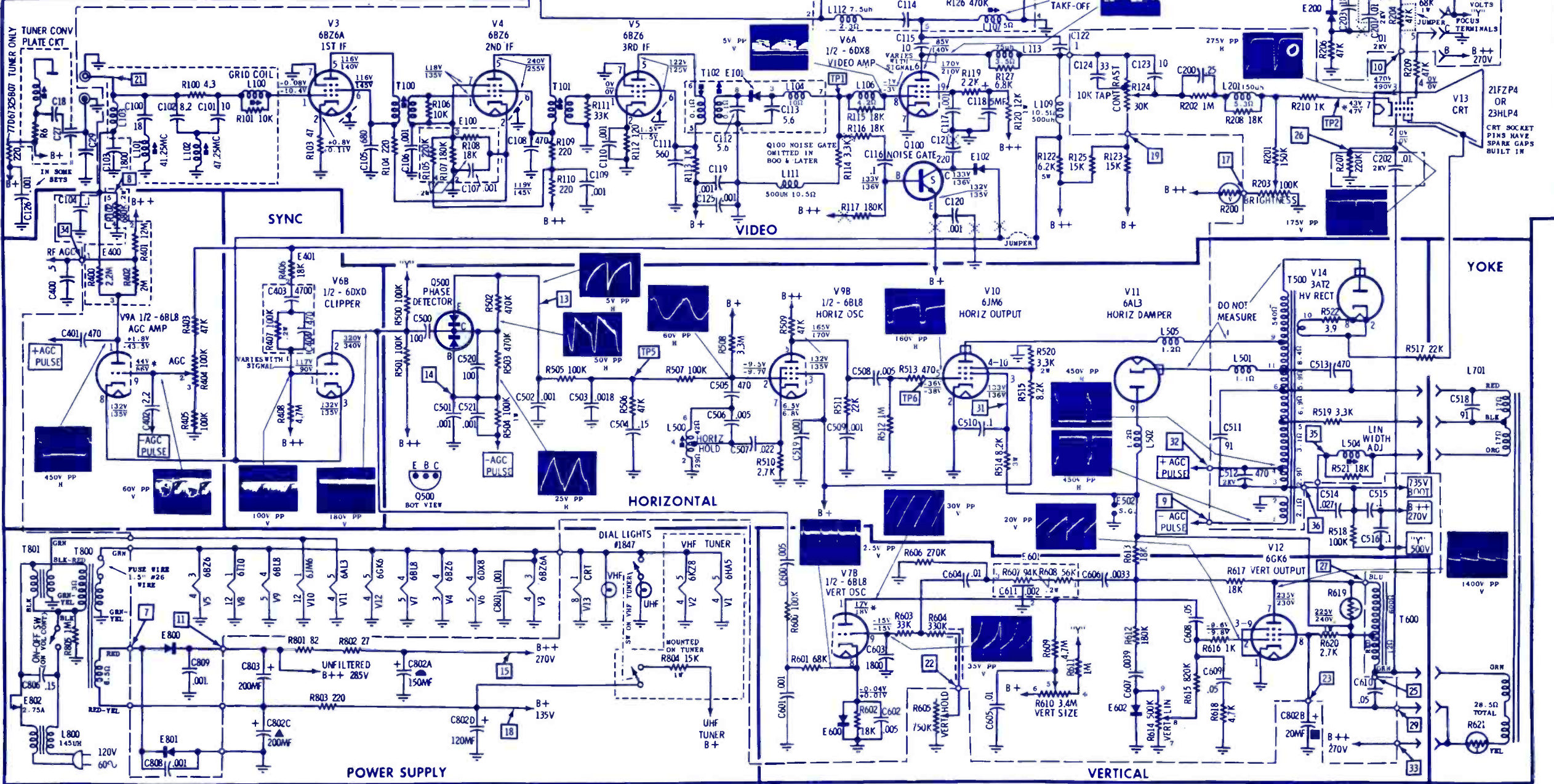
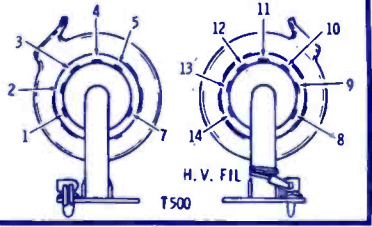
**MOTOROLA**  
TV Chassis TS611  
Series

T301 - audio output	25D67552A22
T500 - MV xformer complete	24D67602A15
T600 - vert output	25D65840A19
T800 - power	25D67448B03
T801 - filament	25D67593A13

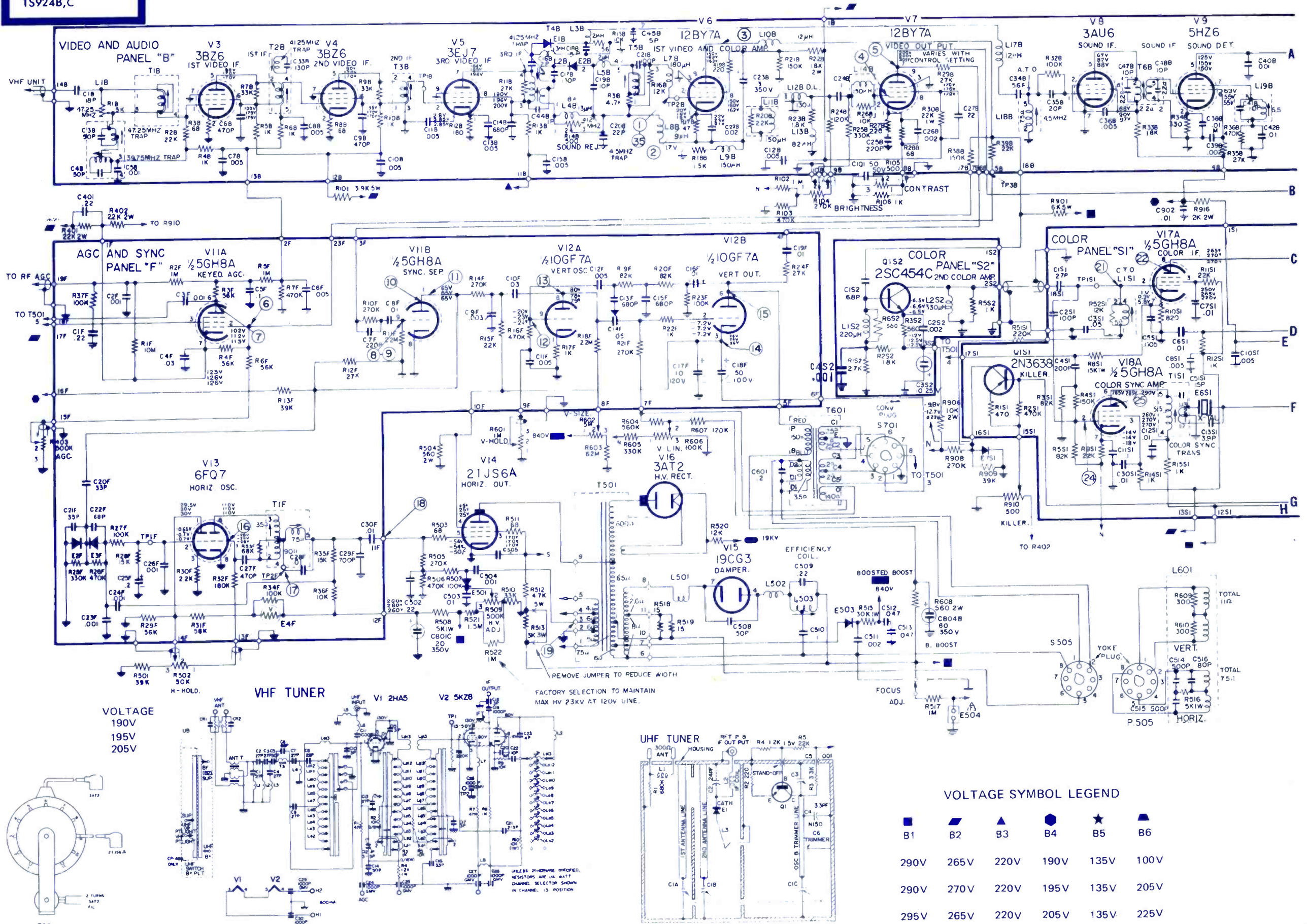
- NOTES:**
- VOLTAGE MEASUREMENTS**
- TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM ±20%.
  - LINE VOLTAGE MAINTAINED AT 130V AC.
  - VARIABLES WITH CONTROL SETTINGS.
  - TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.
  - WHERE TWO VOLTAGES ARE SHOWN: UPPER VOLTAGES - WITH NO SIGNAL INPUT; TUNER OR CHANNEL WITH LEAST NOISE AND ANTENNA TERMINALS SHORTED. LOWER VOLTAGES - WITH TUNER OR STRONG STATION AND OUTSIDE ANTENNA.
- WAVEFORM MEASUREMENTS**
- TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.
  - OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.
  - TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM; ALL CONTROLS IN NORMAL OPERATING POSITION.
  - INDICATES PRINTED CIRCUIT BOARD.

UNLESS OTHERWISE SPECIFIED: CAPACITOR VALUES LESS THAN ONE IN MF, ALL OTHERS IN PF. CAPACITANCE VALUES ONLY ARE SHOWN ON SCHEMATIC DIAGRAM. FOR COMPLETE DESCRIPTION OF CAPACITORS, REFER TO PARTS LIST. RESISTORS ARE ALL 1/2W.

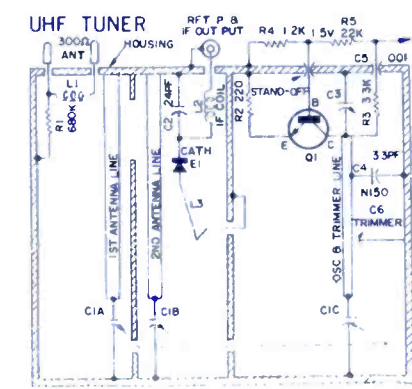
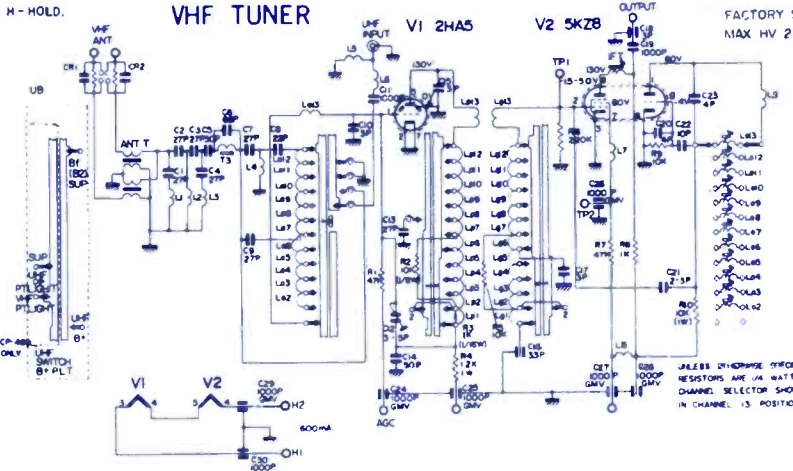
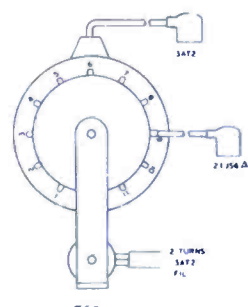
NUMBERS LETTERS IN BOXES INDICATE TEST POINTS & ARE CROSS-REFERENCED TO THE PARTS LOCATIONS ILLUSTRATIONS. ○ INDICATES WIRE WRAPPED TERMINALS.







VOLTAGE  
190V  
195V  
205V



**VOLTAGE SYMBOL LEGEND**

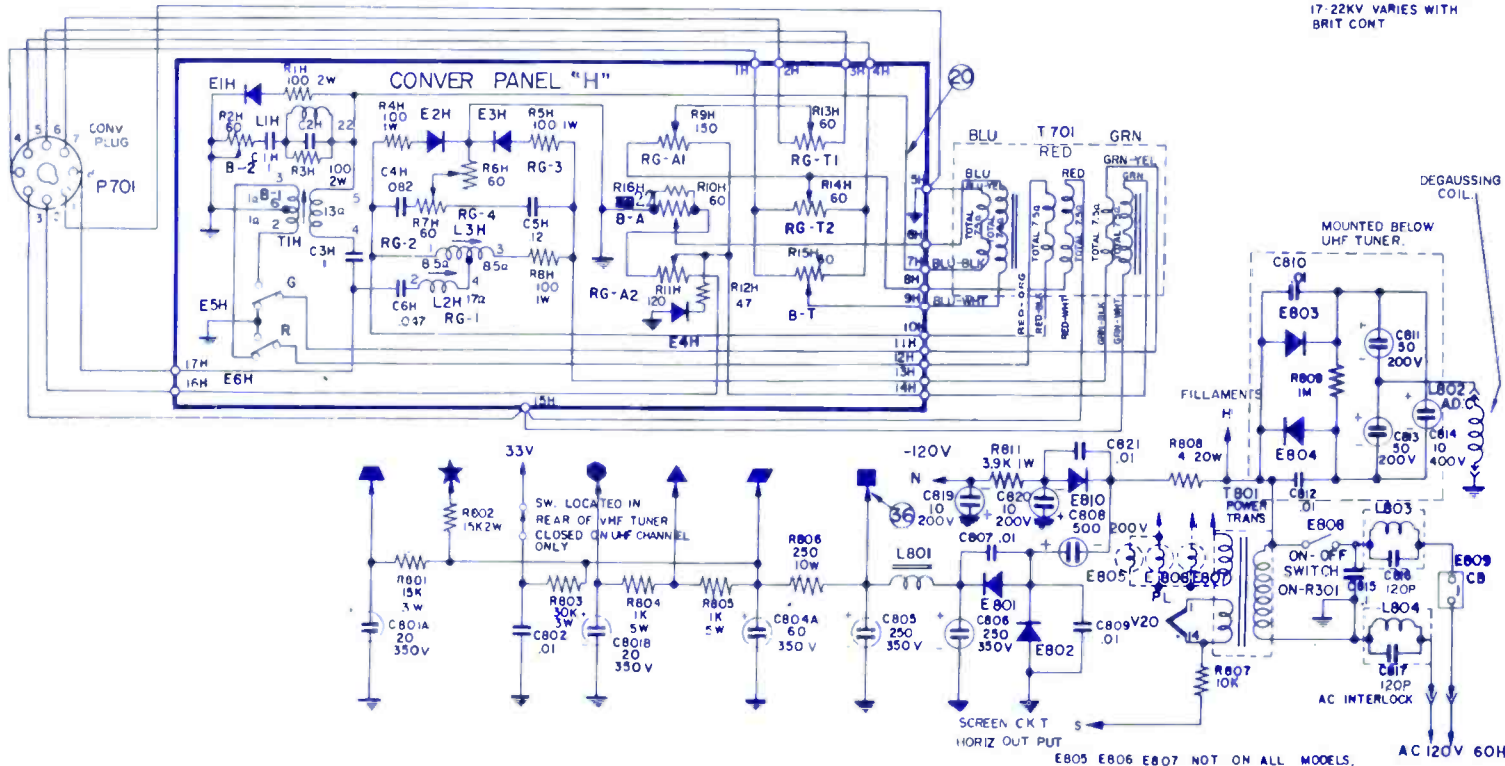
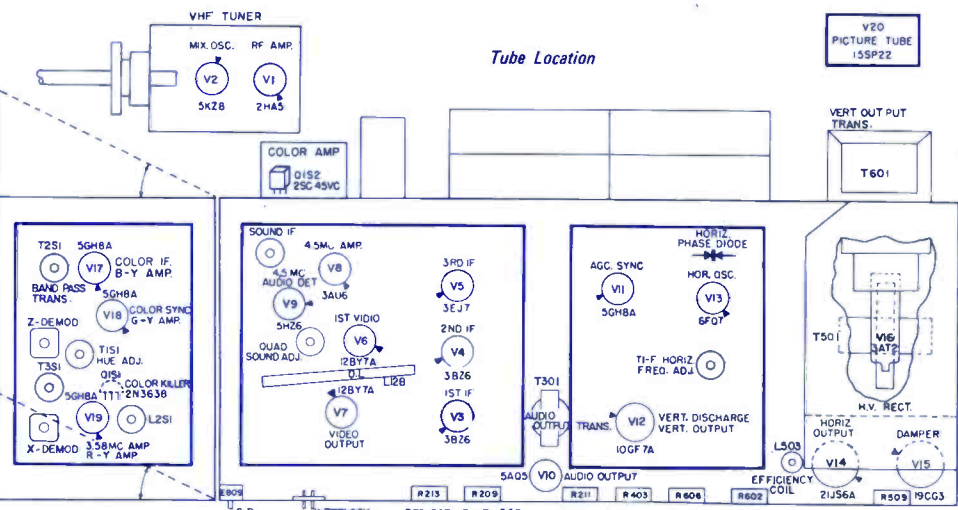
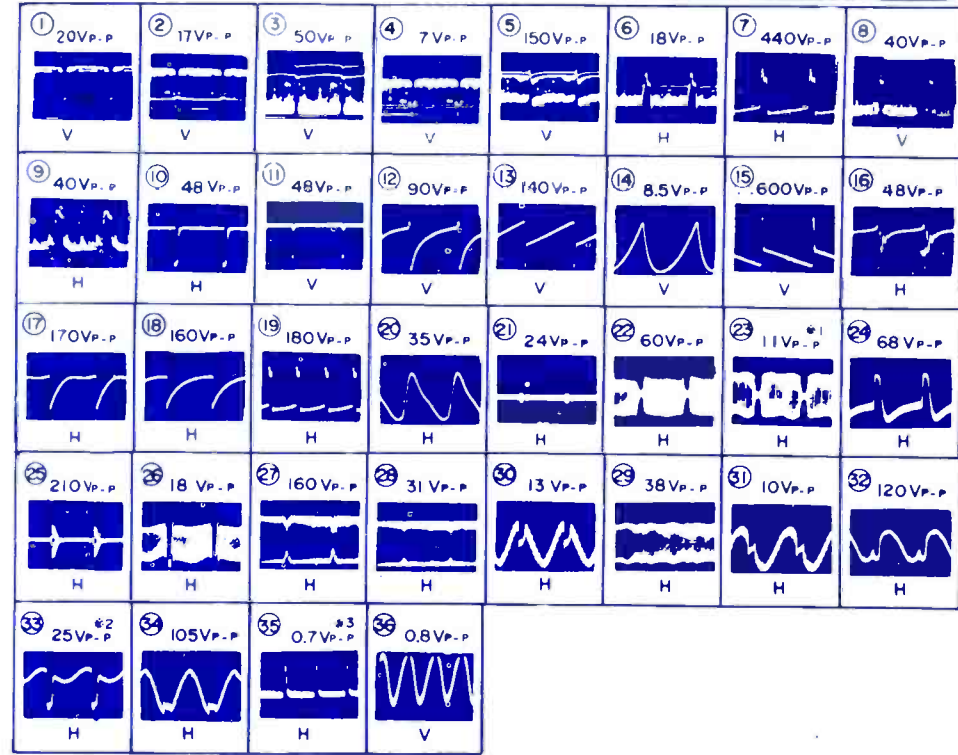
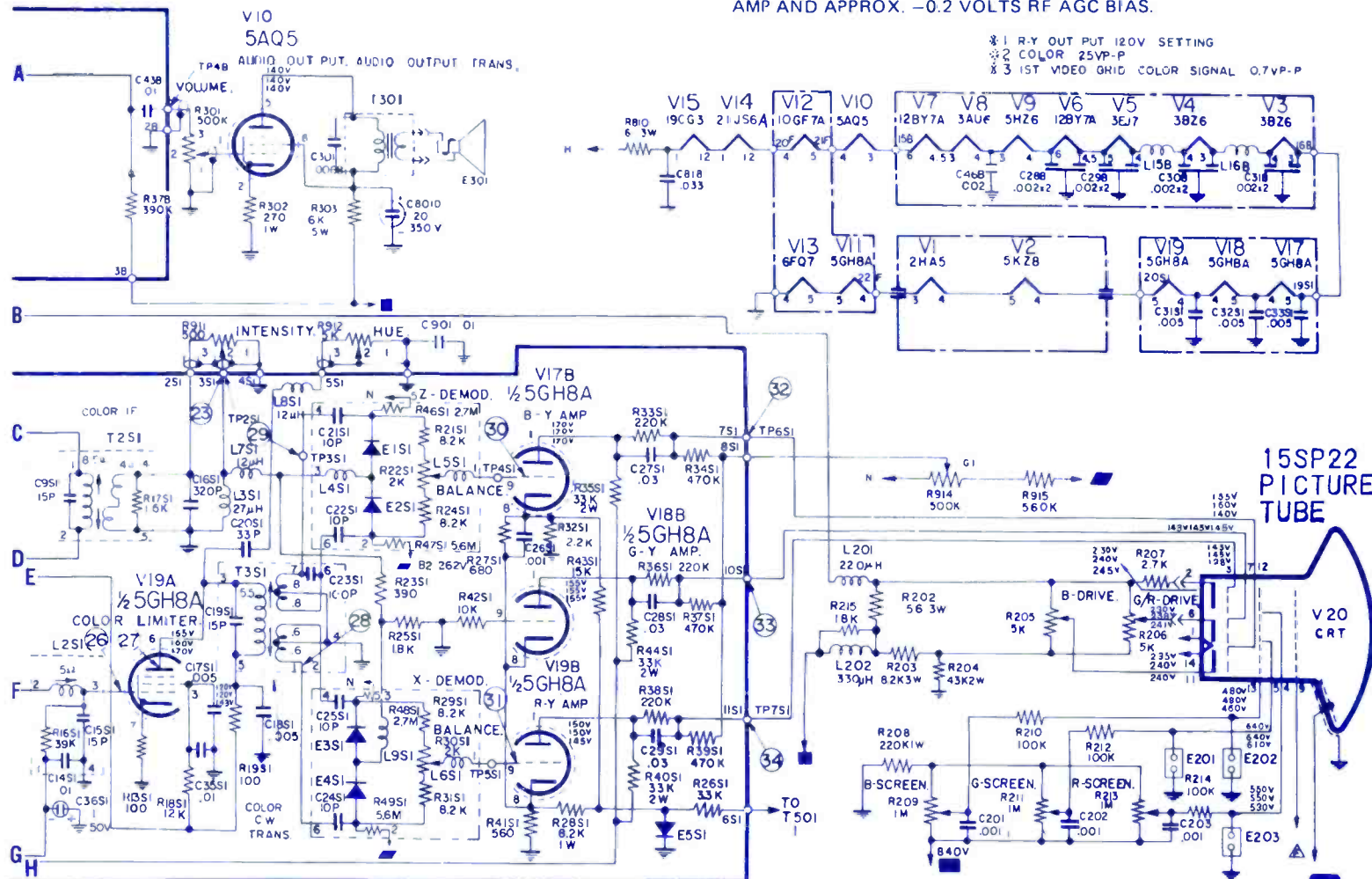
B1	B2	B3	B4	B5	B6
290V	265V	220V	190V	135V	100V
290V	270V	220V	195V	135V	205V
295V	265V	220V	205V	135V	225V



TYPE OF SIGNAL AND ORDER OF LISTING.  
 VOLTAGE ZERO SIGNAL (TUNER SET BETWEEN CHANNELS).  
 NORMAL SIGNAL (AIR COLOR PROGRAM).  
 STANDARD COLOR BAR GENERATOR.

NOTE: CONDITIONS OF NORMAL AIR SIGNAL -5 VOLTS PEAK TO PEAK MEASURED FROM GRID TO CATHODE OF FIRST VIDEO AMP AND APPROX. -0.5 VOLTS RF AGC BIAS.  
 CONDITIONS OF COLOR BAR GENERATOR -1 VOLT PEAK TO PEAK MEASURED FROM GRID TO CATHODE OF FIRST VIDEO AMP AND APPROX. -0.2 VOLTS RF AGC BIAS.

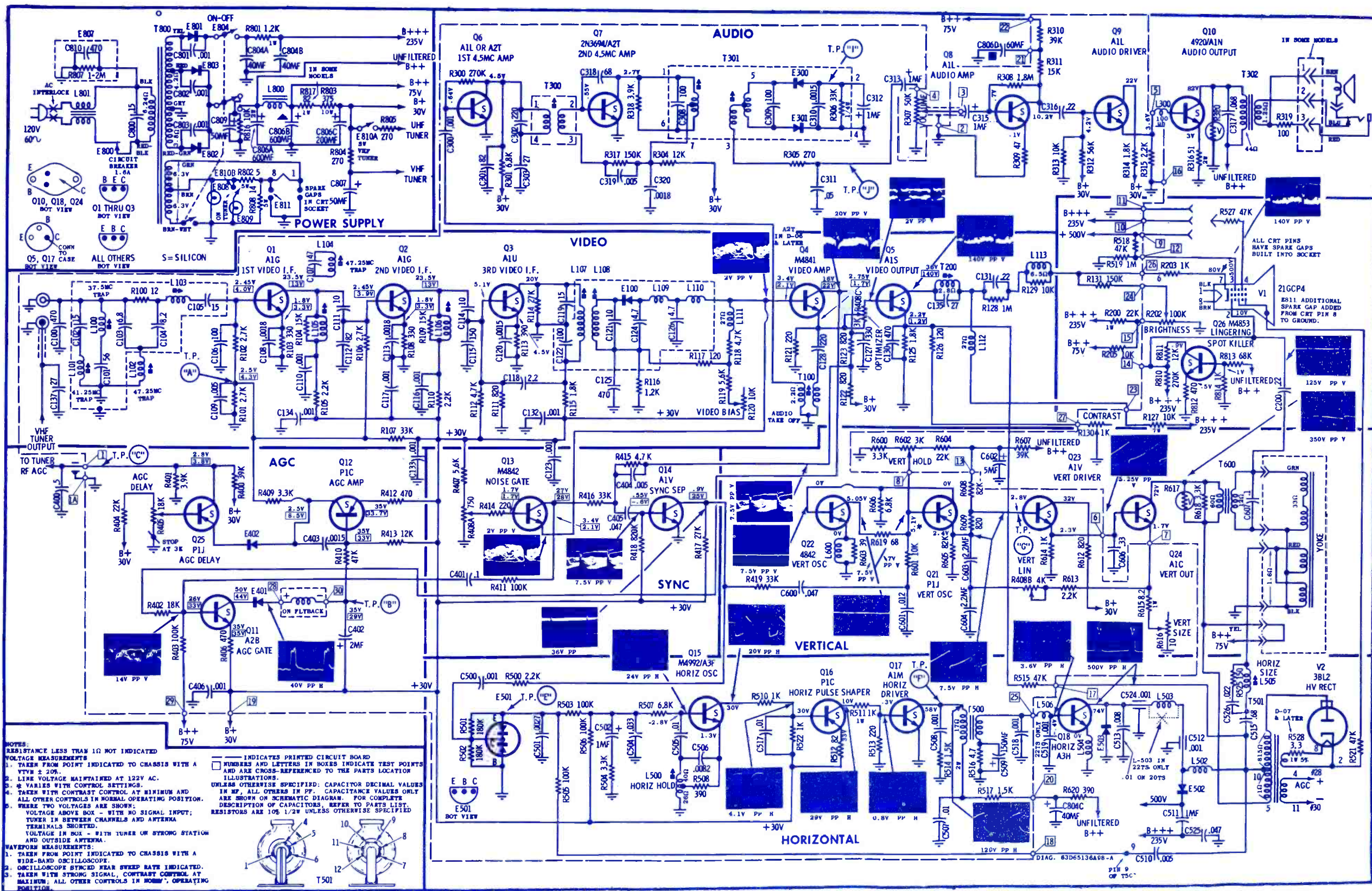
MOTOROLA  
 Color TV Chassis TS924B,C



SYMBOL	DESCRIPTION	MOTOROLA PART NO.	
C27F	-470pf 10% 500v silver mica	21S10052A38	
C508	-50pf 10% 5kv	21D90161A08	
C514	-500pf 10% 3kv	21D90161A13	
C515	-500pf 10% 3kv	21D90161A13	
C516	-56pf 10% 5kv N1500	21S180A73	
C801	-C801A/20µf C801B/20µf C801C/20µf		
C801D	-20µf 350v lytic	21D90161A35	
C804	-C804A/60µf C804B/60µf 350v lytic	21D90161A36	
E1B	-crystal diode 1N60	48C65837A02	
Efa&B	-dual diode	48D90066A01	
E4F	-varistor	6890069A01	
E809	-circuit breaker	80C66390A15	
	vert pincushion phase	24P65171A45	
	vert pincushion corrector	24P65171A46	
L88	-compensating 2µh	24890083A01	
L12B	-delay line	24890094A01	
L15B	-choke, RF	24890128A01	
L18B	-audio take off	24890093A01	
L19B	-quad incl. C41B	24890163A01	
L51	-peaking incl. R52S1	24890216A01	
L3S1	-filter	24890154A01	
L2S2	-compensating 330µh	24890129A01	
L503	-horiz efficiency	24890084A01	
L801	-filter choke	25C90097A01	
L802	-deg coil. CRT	24890130A01	
Q1S1	-color killer 2N3638	48B90165A01	
Q1S2	-2nd color amp 25C45AC	48C90172A01	
R1B	-if trap 5K	18890056A02	
R14B	-sound reject 500Ω	18890056A03	
R2H	-82 60Ω	18890062A01	
R6H	-2 60Ω	18890160A01	
R11	-A2 120Ω	18890160A02	
R14H	-T2 60Ω	18890160A01	
R22S1	-balance 2K	18890056A01	
R140	-bright 270K	18890123A01	
R105	-confr 500Ω	18C90058A01	
R205	-B-drive 5K	18C90059A01	
R211	-G-screen 1M	18C90060A01	
R301	-val 500K inds on/off switch E808	18A90051A01	
R403	-ogc 500K	18890057A02	
R502	-horiz hold 50K	18A90050A01	
R509	-HV adj 500K	18890049A01	
R601	-vert hold 1M	18890053A01	
R602	-vert size 5M	18890061A01	
R606	-vart lin 100K	10A90057A01	
R910	-color killer 500Ω	18890122A01	
R911	-intensity 500Ω	18A90052A01	
R912	hue 5K	18890055A01	
T1B	-1st if interstage	24890074A01	
T4B	-video det	24890081A01	
T5B	-4.5MHz trap incl. C21B, R16B & R31B	24C9022A01	
T1F	-horiz osc incl. C28F	24890082A01	
T1S1	-burst xformer incl. C51S1	24890018A01	
T2S1	-color if incl. C9S1 & R17S1	24890072A01	
T3S1	-phase incl. C19S1 & C23S1	24C90021A01	
T301	-audio output	25C90020A01	
T501	-HV xformer complete in TS924C & later	24P65171A49	
T601	-vert output	25C90099A01	
T701	-conv yoke	24C90092A01	
T801	-filament CRT C14TS924	25C690100A01	

E805 E806 E807 NOT ON ALL MODELS.





**NOTES:**  
 RESISTANCE LESS THAN 10 NOT INDICATED  
 VOLTAGE MEASUREMENTS  
 1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A VANE 2.20S.  
 2. LINE VOLTAGE MAINTAINED AT 122V AC.  
 3. \* VARIES WITH CONTROL SETTINGS.  
 4. TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.  
 5. WHERE TWO VOLTAGES ARE SHOWN, VOLTAGE ABOVE BOX - WITH NO SIGNAL INPUT; TUNER IN BETWEEN CHANNELS AND ANTENNA TERMINALS SHORTED.  
 VOLTAGE IN BOX - WITH TUNER ON STRONG STATION AND OUTSIDE ANTENNA.  
**WAVEFORM MEASUREMENTS:**  
 1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.  
 2. OSCILLOSCOPE SYNC'D REAR SWEEP RATE INDICATED.  
 3. TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.

**LEGEND:**  
 [Symbol] INDICATES PRINTED CIRCUIT BOARD  
 [Symbol] NUMBERS AND LETTERS IN BOXES INDICATE TEST POINTS AND ARE CROSS-REFERENCED TO THE PARTS LOCATION ILLUSTRATIONS.  
 UNLESS OTHERWISE SPECIFIED: CAPACITOR DECIMAL VALUES IN MF, ALL OTHERS IN PF. CAPACITANCE VALUES ONLY ARE SHOWN ON SCHEMATIC DIAGRAM. FOR COMPLETE DESCRIPTION OF CAPACITORS, REFER TO PARTS LIST.  
 RESISTORS ARE 10% 1/2W UNLESS OTHERWISE SPECIFIED.



SYMBOLS DESCRIPTION

MOTOROLA PART NO.

L-506	horiz choke	24D6904403
L-507	compensating 1000 μh	24D68002A96
L-700	yoke deflection	24D68523A03
L-800	choke filter	25D67554A12
T-200	4.5MHz trap incl C135	24D68610A14
T-300	4.5MHz rap interstage	24D68822A01
T-301	ratio detector incl E300 E301 C308 C309 C310 R308	24V66550A80
T-302	audio output	25D67552A17
T-500	horiz driver	25D67440A03
	horiz output xformer complete presec wind can be	24D68804A07

T-600	vert output	25D65840B23
T-800	power xformer	25D68164A07
R-120	video bias 22K	18D66401A35
R-130	contrast 1K 20 21 & C21TS612	18D67502A14
R-202	bright 100K 20 21 & C21TS612	18D67637A63
	bright 100K 22TS612	18D67637A69
R-307	volume 50K 20 21 & C21TS612	18D67637A02
	volume 50K 22TS612	18D67562A10
R-405	RF AGC delay 18K	18D66401A20
R-408	vert line 4K noise gate 750 Ω	18D67678A05
R-602	vert hold 3K 21 21 & C21TS612	18D67637A64
C-806	400 μf /125V 40 μf /100V	23C65807A33

C-809	600 μf /100V 200 μf /50V	elect
C-811	50 μf 150 v elect	
C-812	5 μf 50v elect	
E-401	5 μf 200v elect	
E-402	diode crystal AGC gate	
E-501	diode crystal AGC amp	
E-503	diode dual horiz phase det	
	diode silicon D1D damp-er	
E-807	res - cap	
L-100	37.5 MHz trap incl core	
L-101	41.25 MHz trap incl core	
L-102	47.25 MHz trap incl core	
L-103	1st IF base incl core	
L-104	1st IF & 47.25 MHz trap	

23C65808A08	
23C65828A37	
23C65808A32	
48C67120A02	
48C65837A02	
48S134917	
48S134921	
51C67517A01	
24D67754A20	
24D67754A23	
24D67754A22	
24D67754A23	
24V88607A31	

TECHNICIAN / DEALER

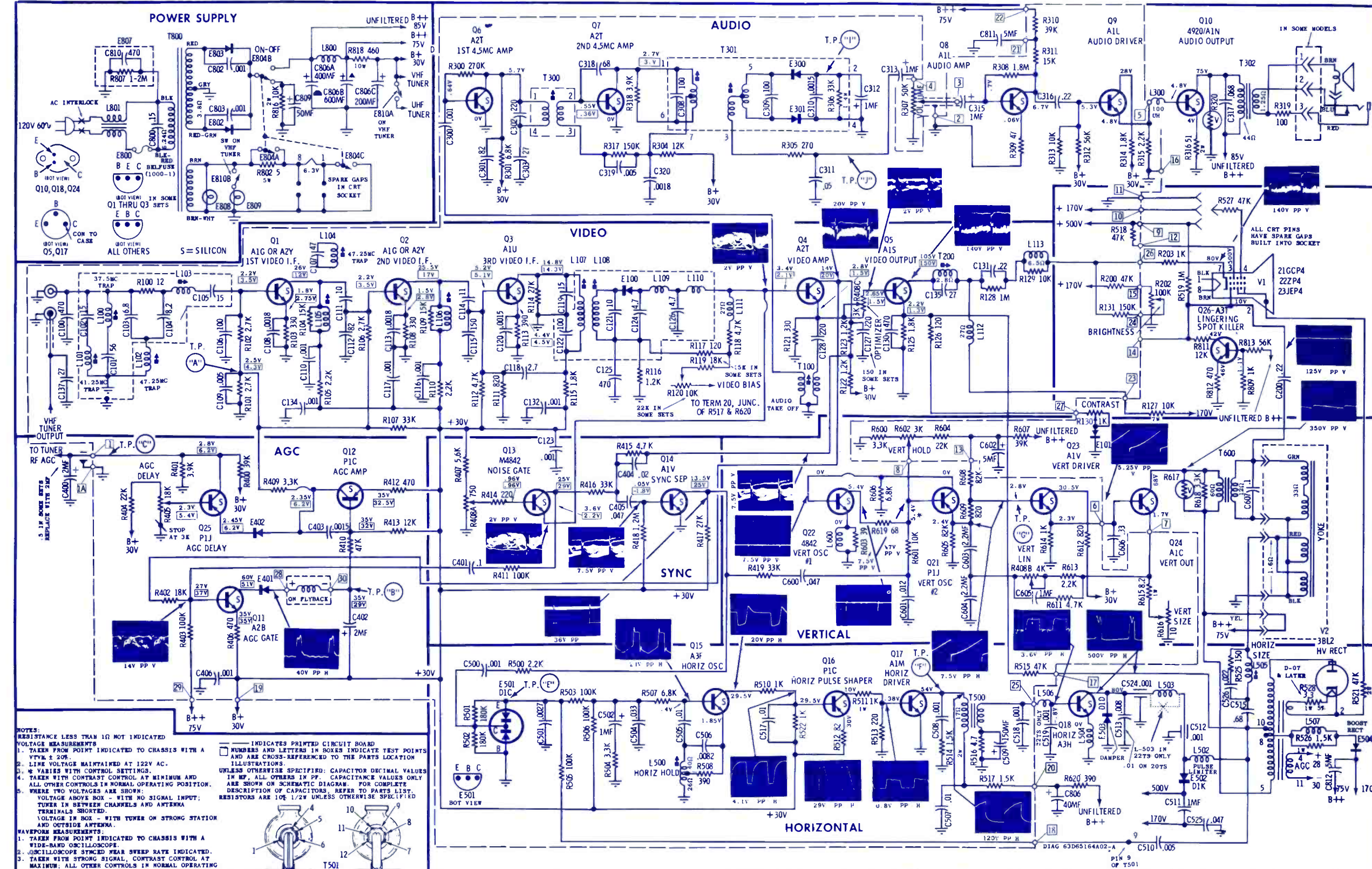
WELFARE

MOTOROLA

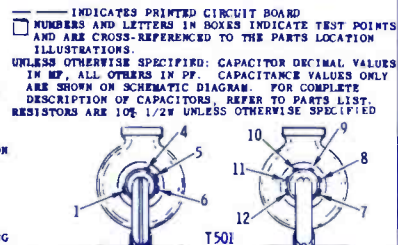
TV Chassis TS612A

L-106	incl C107 & core	24D67754A27
L-109	2nd IF interstage	24D68772A11
L-111	choke IF resonant 8.8 μh	24D88002A38
L-300	compensating 900 μh	24D68002A28
L-500	compensating 100 μh	24D68130A03
L-503	horiz osc incl core	24D65947A86
	choke horiz suppressor	
	22TS612 only	
L-504	choke horiz suppressor	24D65947A88

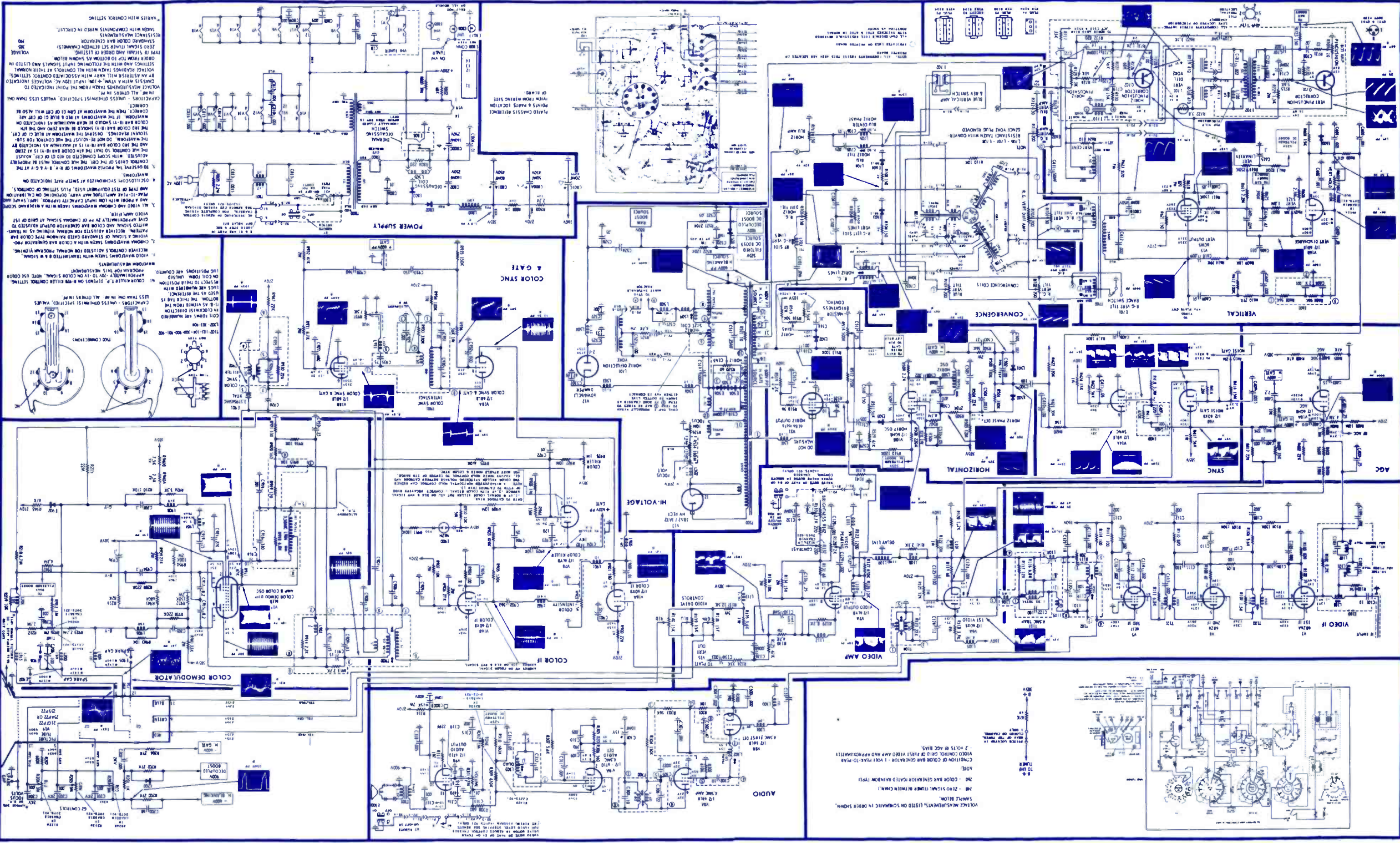
L-505	horiz size 20,21, & C21TS612	24D69163A02
	vert hold 3K 22TS612	18D67637A68
R-616	vert size 10 Ω	18D00447A02
R-320	varistor audio output	6C66263A16
R-517	1500 10% 3w fixed mtl film	17S10130B07
R-617	varistor vert	5A10053060



**NOTES:**  
 RESISTANCE LESS THAN 10 NOT INDICATED  
 VOLTAGE MEASUREMENTS  
 1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM ± 20%.  
 2. LINE VOLTAGE MAINTAINED AT 122V AC.  
 3. \* VARIES WITH CONTROL SETTINGS.  
 4. TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.  
 5. WHERE TWO VOLTAGES ARE SHOWN: VOLTAGE ABOVE BOX - WITH NO SIGNAL INPUT; TUNER IN BETWEEN CHANNELS AND ANTENNA TERMINALS SHORTED. VOLTAGE IN BOX - WITH TUNER ON STRONG STATION AND OUTSIDE ANTENNA.  
**WAVEFORM MEASUREMENTS:**  
 1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.  
 2. OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.  
 3. TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.







**MOTOROLA**  
Color TV Chassis  
TS-921 Series

**ELECTRONIC TECHNICIAN / DEALER**  
**TEMPAX**

NOTE: POINT MEASUREMENTS LISTED ON SCHEMATIC IN ORDER SHOWN.  
20 - 250 SIGNAL TUNER (RATED CHANNEL 1)  
30 - COLOR BAR DEMODULATOR (RATED CHANNEL 19)  
CIRCUITRY OF COLOR BAR DEMODULATOR - 1 VOLT SCALE - 100 μS  
VIDEO CONTROL GRID OF FIRST VIDEO AMP AND APPROXIMATELY  
7 VOLTS @ AC BIAS.

TIME BASE  
10 μS  
100 μS  
1 MS



CAPACITORS. All cer disc unless otherwise noted

C511 - 630v, 1.0µf 20% mtz poly	8510212A30
C524 - 1kv, 1000pf, 20% ZSU feed-thru	215135871
C804 - 40µf/300v, 40µf/300v, 40µf/100v	23C65891A08
C806 - 400µf/125v, 60µf/40v	23C65807A30
C807 - 50µf/50v elect (use 23C60119A06)	23C65808A12

MISCELLANEOUS ELECTRICAL PARTS

E301 - crystal (ratio det) diode	48C65837A02
E800 - circuit breaker	80C66390A19
E807 - res-cap	51C67517A01

COILS & CHOKES

L101 - 41.25MHz trap, incl. core	24D67754A21
L102 - 41.25MHz trap, incl. core (A-01 and later)	24D67754A23
L103 - 47.25MHz trap, incl. core	24D67754A22
L105 - 1st IF & 47.25MHz trap, incl. core	24V68607A31
L108 - 3rd IF secondary, incl. core	24D67754A25
L109 - 8.8µh resonant, choke, IF	24C66772A11
L111 - 900µh compensating	24D68002A38
L500 - horiz osc, incl. core	24D68130A03

L700 - 114" yoke, def	24D68523A03
L800 - filter choke	24D67554A12
L801 - line choke	1V68611A43

TRANSISTORS

Q1 - 1st IF amp (A1G)	48S134904
Q2 - 2nd IF amp (A1G)	48S134904
Q3 - 3rd IF amp (A1U)	48S134932
Q4 - 1st video amp (M4841)	48S134841
Q5 - video output (A1S)	48S134927
Q6 - 4.5MHz amp 1st (A1L)	48S134918
Q7 - 4.5MHz amp 2nd (A2T or 2N3694)	48S134970
Q8 - audio amp (A1L)	48S134918
Q9 - audio driver (A1L)	48S134918
Q10 - audio output (A1H)	48S134920
Q11 - AGC gate (A2B)	48S134942
Q12 - AGC amp (P1C)	48S134910
Q13 - noise gate (M4842)	48S134842
Q14 - sync separator (A1V)	48S134933
Q15 - horiz osc (A3F)	48S134992
Q16 - horiz pulse shaper (P1C)	48S134910
Q17 - horiz driver (A1M)	48S134919
Q18 - horiz output (A1D)	48S134901

Q22 - vert driver (M4842)

Q23 - vert driver (A1V)

Q24 - vert output (A1C)

Q25 - AGC delay (P1J)

48S134822  
48S134923  
48S134900  
48S134943

TRANSFORMERS

T100 - 4.5MHz trap & ATO incl. core	24D68822A02
T200 - 4.5MHz trap, incl. C-135	24V68610A14
T300 - 4.5MHz interstage	24D68822A01
T301 - ratio det	24V66550A80
T302 - audio output	25D67552A17
T500 - horiz driver	25D67440A03
T501 - horiz output xformer	24D68804A02
T600 - vert output	25D65840A23
T800 - power	25D68164A02

RESISTORS

R127 - 10K 10% 7w WW	17S135542
R320 - varistor (audio output)	6C66263A08
R516 - 4.7K 10% 2w WW	17S10159A04
R617 - varistor (vert)	6C66263A08
R700 - thermistor (on yoke)	6C65884A07
R802 - 5Ω 10% 5w WW	17S745634
R803 - 375Ω 10% 10w WW	17S135771

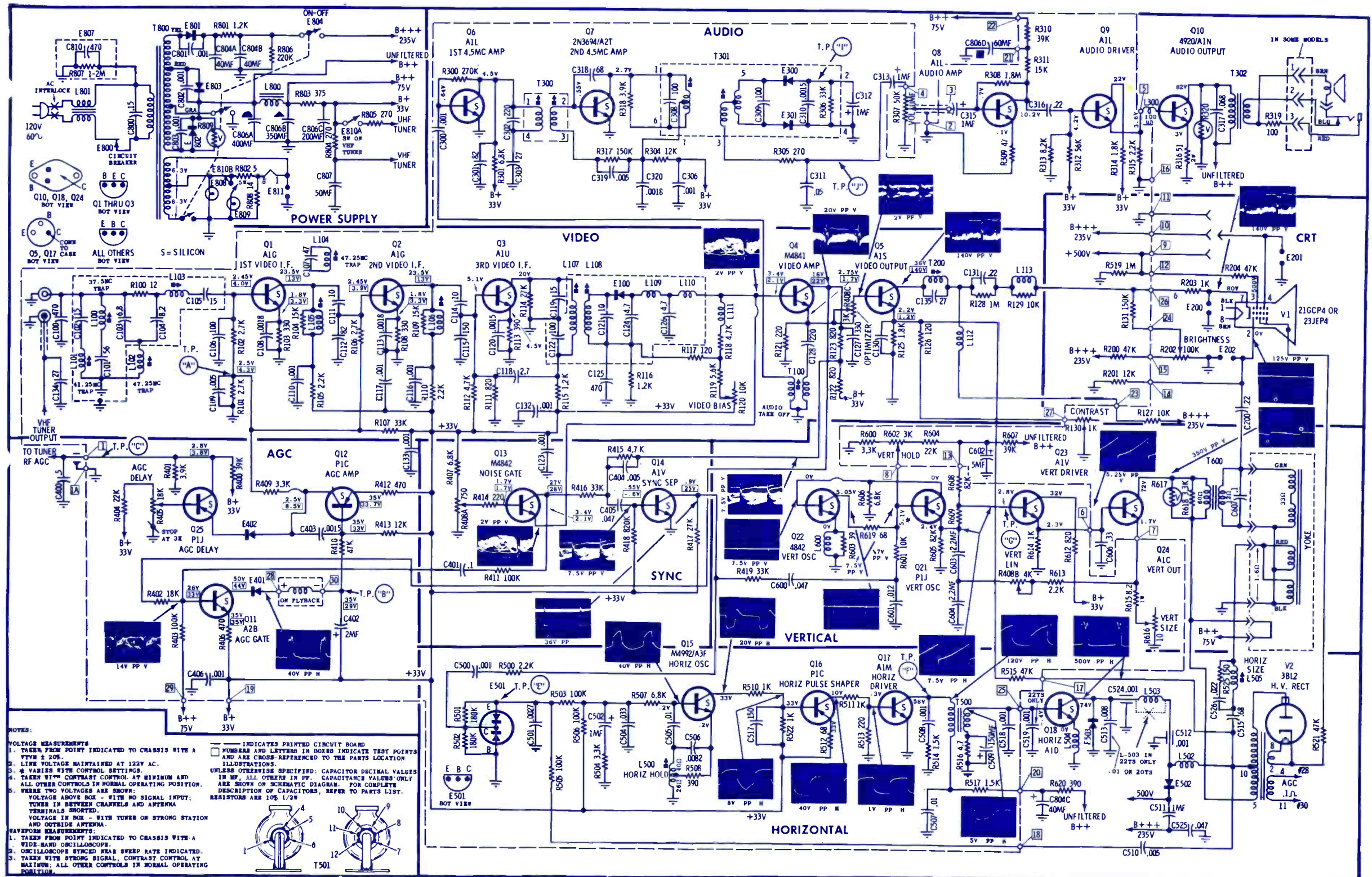
R808 - 14Ω 10% 5w WW	17S135977
R809A - varistor power supply	6C66263A08

CONTROLS

R120 - 1st video bias: 10K	18D66401A19
R130 - 1K contrast: (2015-592)	18D67502A14
R130 - 1K contrast: (2215-592)	18D67637A70
R202 - 100K bright: (2015-592)	18D67637A63
R202 - 100K bright: (2215-592)	18D67637A69

R307 - 50K volume (2015-592)	18D67562A02
R307 - 50K volume (2215-592)	18D67562A10
R405 - 18K, RF AGC delay	18D66401A20
R408 - 4K, noise gate 750Ω (opt 3K) vert linearity	18D67678A05
R602 - 3K (2015-592) vert hold	18D67637A64
R602 - 3K (2215-592) vert hold	18D67637A68
R610 - 10Ω vert size	18D68447A02

VHF tuner OPTT 394



NOTES:

VOLTAGE MEASUREMENTS

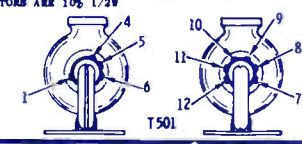
- TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM ± 2%.
- LINE VOLTAGE MAINTAINED AT 122V AC.
- \* VARIES WITH CONTROL SETTINGS.
- TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.
- WHERE TWO VOLTAGES ARE SHOWN: VOLTAGE ABOVE BOX - WITH NO SIGNAL INPUT; TUNER IN BETWEEN CHANNELS AND ANTENNA TERMINALS SHORTED. VOLTAGE IN BOX - WITH TUNER ON STRONG STATION AND OUTSIDE ANTENNA.

WAVEFORM MEASUREMENTS:

- TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE BAND OSCILLOSCOPE.
- OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.
- TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.

INDICATES PRINTED CIRCUIT BOARD NUMBERS AND LETTERS IN BOXES INDICATE TEST POINTS AND ARE CROSS-REFERENCED TO THE PARTS LOCATION ILLUSTRATIONS.

UNLESS OTHERWISE SPECIFIED: CAPACITOR DECIMAL VALUES IN MF, ALL OTHERS IN PF. CAPACITANCE VALUES ONLY ARE SHOWN ON SCHEMATIC DIAGRAM. FOR COMPLETE DESCRIPTION OF CAPACITORS, REFER TO PARTS LIST. RESISTORS ARE 10% 1/2W





**OLYMPIC**

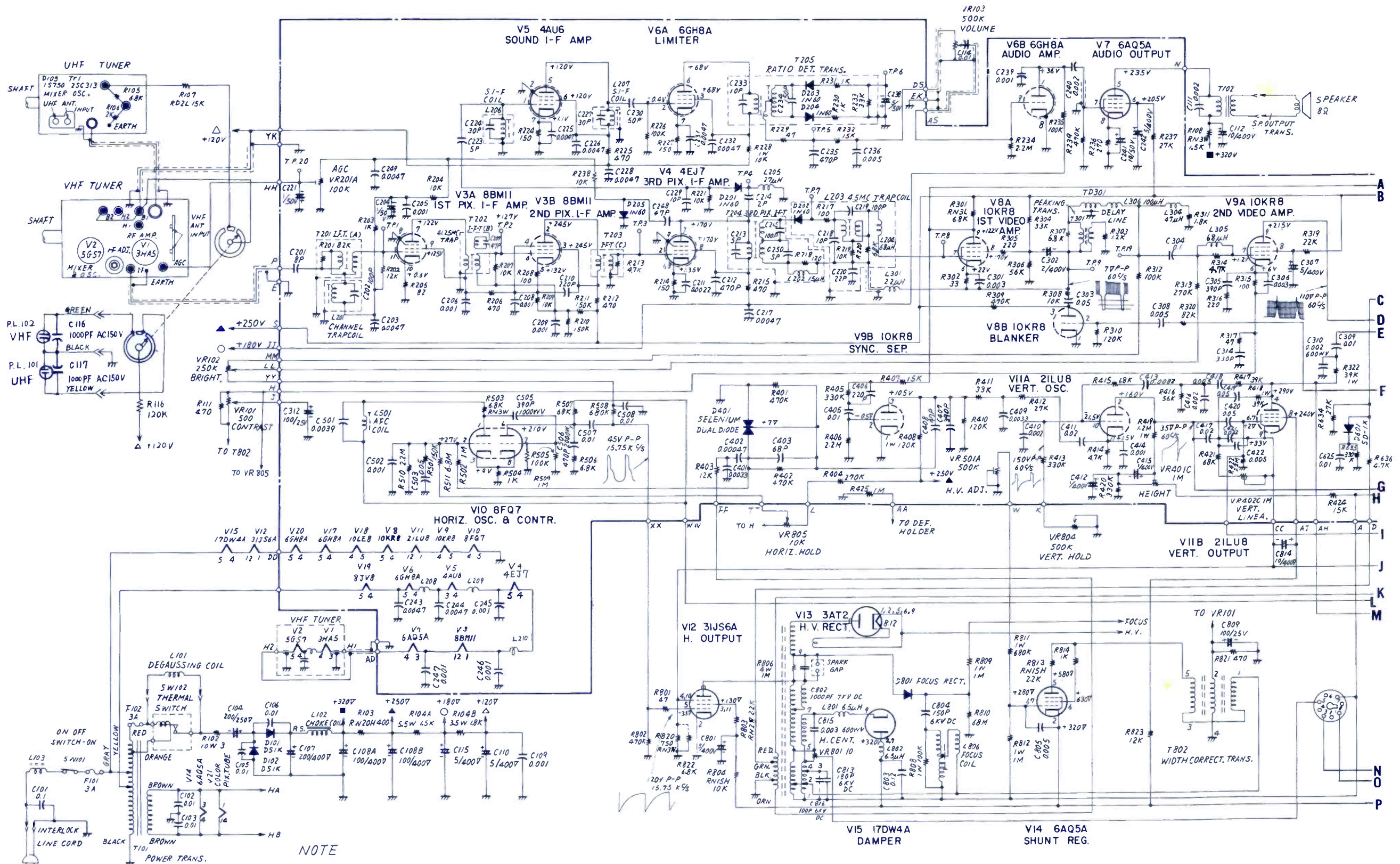
Color TV  
Chassis CT-1940

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

SYMBOL	DESCRIPTION	OLYMPIC PART NO.
CLJ61543	coil assy AFC	TD 469
CKJ61456	coil choke	TDT 464
CKJ61455	coil choke	TRT 766
CKJ61542	coil choke	TRT 767
CLJ61534	coil inductor	TRT 565-5
CLJ61451	coil inductor	TRT 565-7

CLJ61536	coil color phase	TRT 700 H
CLJ61537	coil color phase	TRT 750 H
INJ61435	diode dual selenium	EP 2798
REJ61541	resistor	EP 3572
SWJ60222	switch ther	EP 4246
COJ61538	spark gap	EP 3798 J
SAJ61533	xformer assy width coil	EP 2835
		TDT 458 H

TRJ61531	xformer assy HV	TDT 484 K
CLJ61446	xformer assy burst phase	TRT 747
CLJ61453	xformer assy peaking	TRT 745 H
TRJ61532	xformer assy peaking	EP 3572
TRJ61532	xformer power	EP 4246
TRJ61530	xformer vert output	ETLT 211H
TRJ61529	xformer 1st band pass	TDT 405 J
TN61433	trans	TRT 675
CLJ61521	yoke def	IS 1621
		TDT 483 - 1

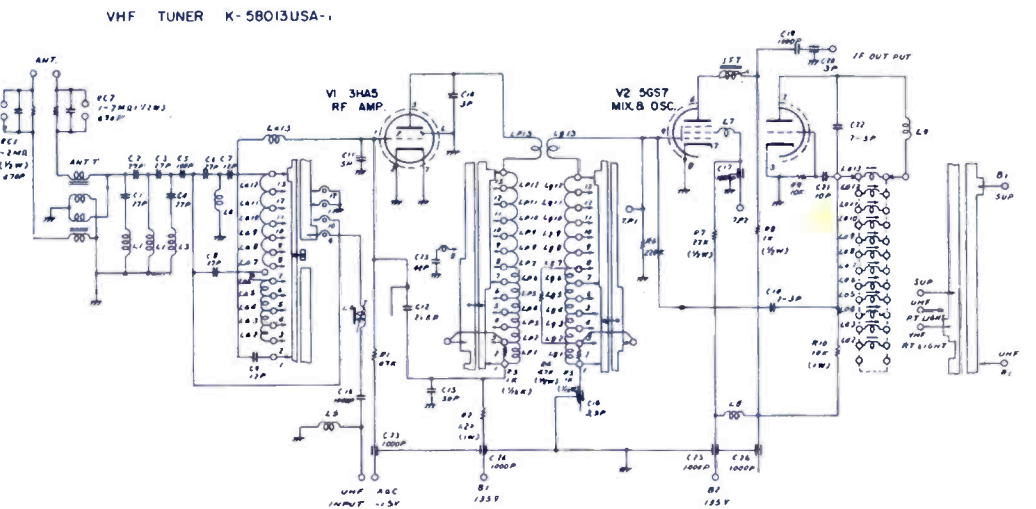
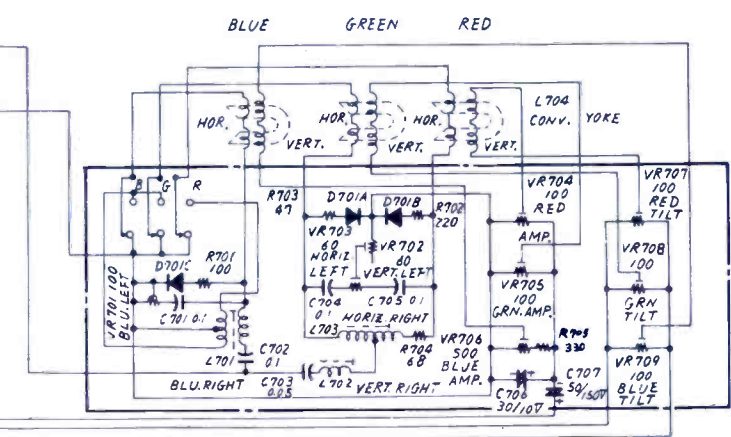
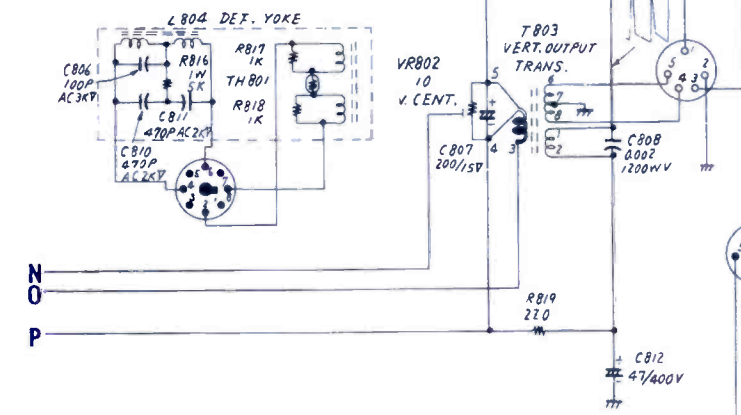
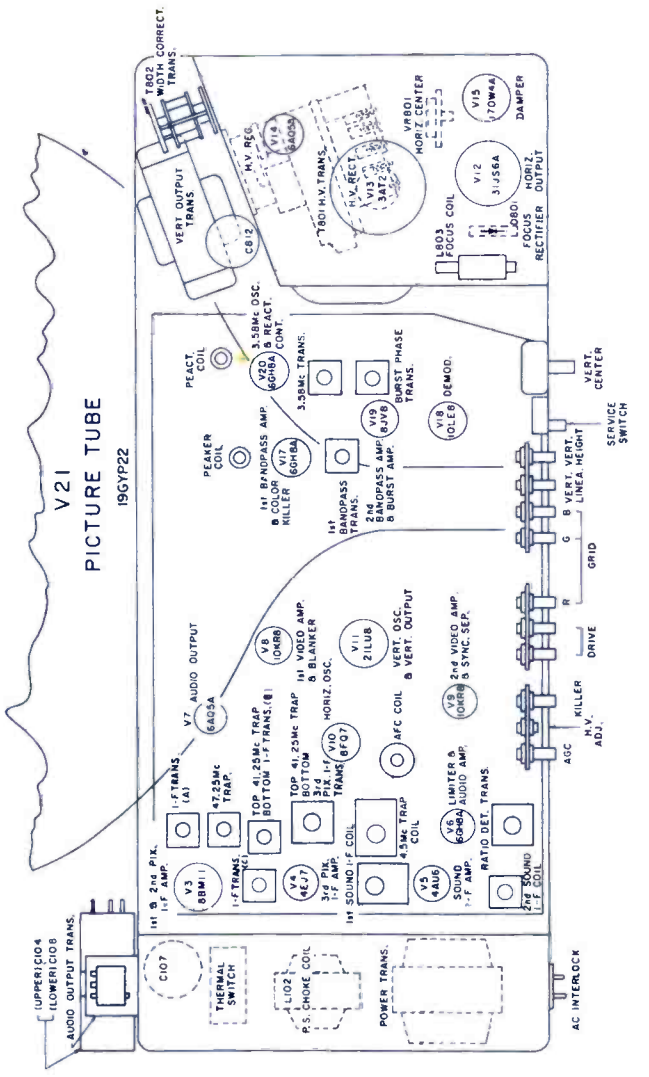
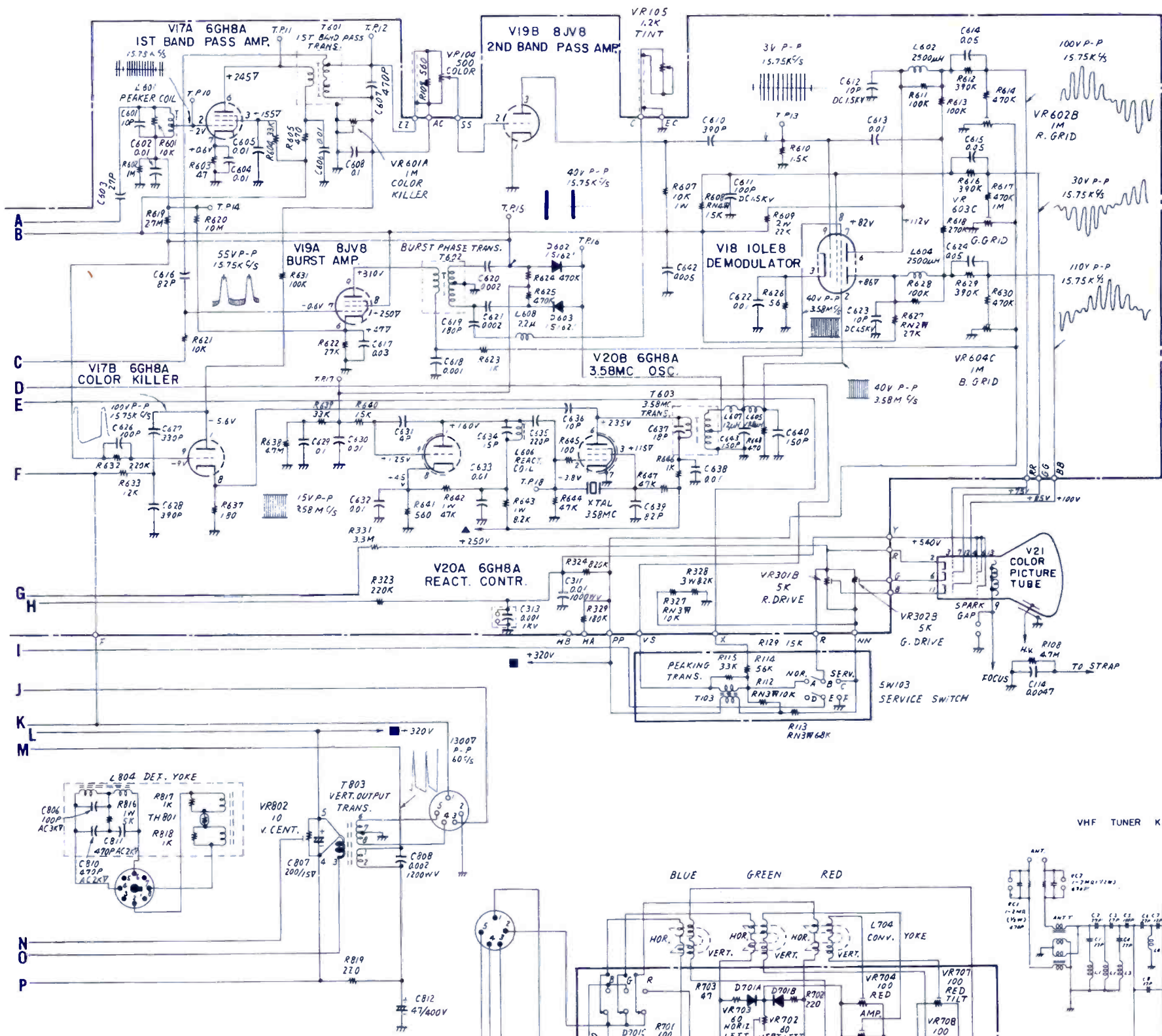


**NOTE**

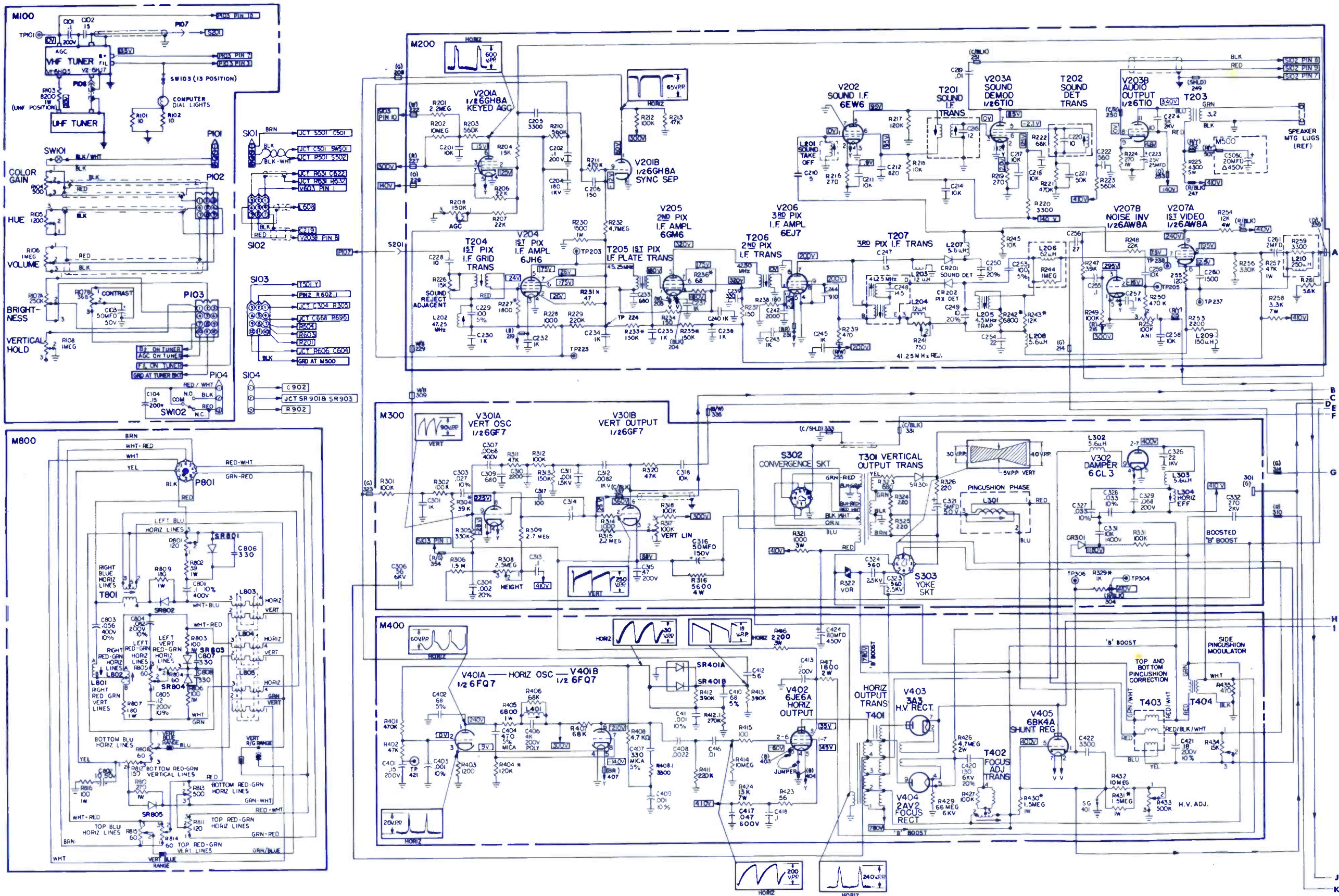
1. ALL CAPACITANCE VALUES ARE IN "MF", BUT "P" MEANS "PF"
2. ALL RESISTANCE VALUES ARE IN OHMS. K = 1,000, M = 1,000,000.
3. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH AN "ELECTRONIC VOLTMETER" & WITH NO SIGNAL INPUT & SHOULD HOLD WITHIN ±20% WITH 120V. AC SUPPLY.

AC120V 60 ∞











DESCRIPTION	PART NO.
C306 - 56pf, 20% 6kv N1500 cer	23696
C321 - 5µf, 50v, elect non-polarized	24146
C420 - 130pf, 6kv, N2200, cer	24547
C502A - 10,000µf, 1.4kv cer, dual	23982
C502B - same as C502A	
C503A - 80µf, 450v, elect dual	24244
C503B - 50µf, 450v, elect dual	
C505A - 80µf, 450v, elect triple	
B - 50µf, 450v, elect, triple	24285
C - 20µf, 450v, elect, triple	
(in M200)	
CONTROLS	
R208 - 150K AGC	25691
R226 - 15K 10% 2w adj ch sound rejection	25699
R241 - 750Ω 30% sound rejection	25642
R252 - 100K ANI	25685
R317 - 100K vert linearity	25685
R308 - 2.5M height	25687
R433 - 500K HV adjustment	25614
R434 - 15K pincushion correction	25709A
R602 1A - 500K bright range, dual	25733
R602 1B - 7.5K picture fidelity, dual	
R616 - 6K, blue drive	25708-2A
R617 - 6K, grn drive	25708-1A
R621 - 1.5M grn screen	25682-3
R662 - 500K CRT bias	25684
COILS & XFORMERS	
L201 - sound take-off	29914A
L202 - 47.25MHz trap	29866A
L207 - 5.6µh, 10% RF, choke	29787D
L210 - 250µh, & 3300Ω (R259) LR network	29773
T202 - sound det xlfomer	29916B
T203 - 3.2Ω audio output xlfomer	89466A
T204 - 1st IF grid xlfomer	29767A
T205 - 1st IF plate xlfomer	29768A
T206 - 2nd IF xlfomer	29769E

L301 - pincushion phasing	29895A
L302 - 5.6µh 10% RF choke	29787D
L304 - horiz efficiency	29897
T301 - vert output xlfomer	89591B
L401 - horiz osc	29861
T401 - horiz output	89592
T402 - focus	29917
T403 - pincushion correction	89581-2G
T404 - pincushion modulator	89593
L601 - delay line	29749
L604 - chromo take-off	29748B
L611 - reactance control	29748B
T601 - video peaking	29810A
T603 - 2nd band pass	29822B
T604 - burst phase	298158
DIODES	
CR201 - sound det	72080
RESISTORS (101 1/2w unless otherwise specified)	
R225 - 4.3K 5w	73309
R322 - VDR, 1ma @175vdc	73510
R333 - 910Ω 18w WW (inM500 on schematic)	73786
R416 - 2.2K 3w	73319
R504 - 5.6K 7w	73768
R424 - 13K 7w	73300
R426 - 4.7M 2w	73469
R429 - 66M 6kv	73501
SG401 - spark gap	45056
MISCELLANEOUS	
SW501 - circuit breaker	86722
T501 - power xlfomer	89585A

## DESCRIPTION & SPECIFICATIONS

Control tuner subassembly CTS-12  
I-F amplifier subassembly IFS-3  
Deflection subassembly DFS-1  
Power supply subassembly PSS-1  
Chroma amplifier subassembly CRS-2  
Convergence subassembly CVS-1  
Interface parts

Besides chassis 98C17, the subject models contain de-gaussing subassembly ICPS-3, and miscellaneous replaceable parts. The list of replaceable parts herein is divided into categories corresponding to the above subassemblies.

Future models also may contain chassis 98C17, in which case a service note will refer to this manual for coverage of these future models.

### CABINET DIMENSIONS & SHIPPING WEIGHTS:

	Height	Width	Depth	Weight
CRW-402	20 1/2"	33"	19 1/2"	Not available yet
CRW-502	30"	33"	19 1/2"	Not available yet
CRW-504	30 1/2"	34"	19 1/2"	160 lb.
CRW-506	30"	40"	20"	160 lb.
CRW-602	30"	39"	21"	180 lb.
CRW-606	28 1/2"	55 1/2"	21 1/2"	215 lb.

(Dimensions are maximum and are rounded to the nearest half inch.) (Add 1 1/2" in height for Colonial models.)

**RF FREQUENCIES:** All VHF channels (2 thru 13) and all UHF channels (14 thru 83) may be received.

### INTERMEDIATE FREQUENCIES:

Picture I-F carrier: 45.75 MHz  
Sound I-F carrier: 41.25 MHz  
Color subcarrier: 42.17 MHz  
Intercarrier sound: 4.50 MHz

### ELECTRICAL RATINGS:

Line voltage: 110-120 V, 60 Hz  
Power consumption: 340 W

### PICTURE TUBE: 25XP22

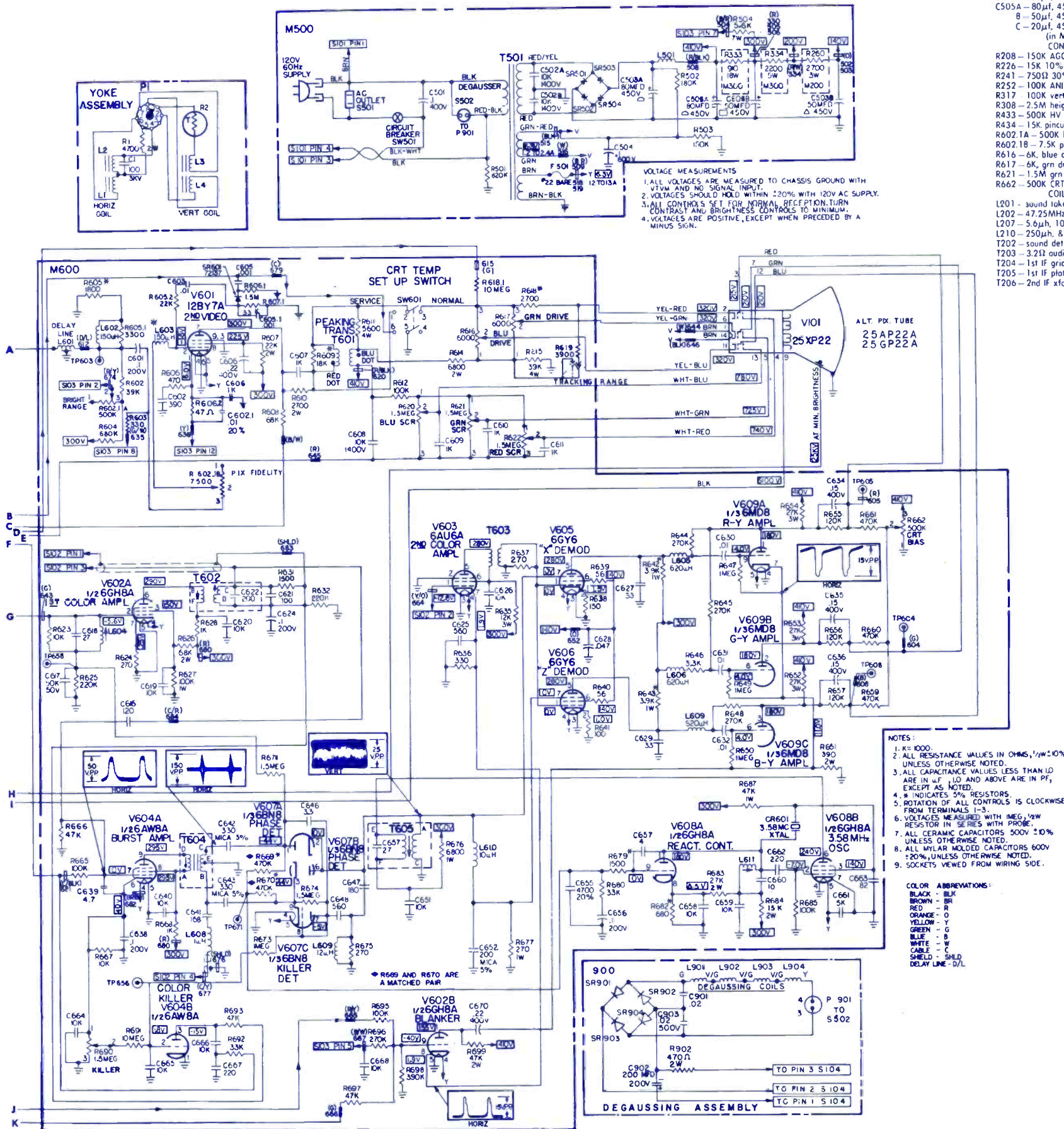
Alternates: 25AP22A and 25GP22A

See page 5, column 2, line 10 ff.

**ANTENNA INPUT IMPEDANCE:** 300 Ω, balanced  
**CONTROLS:** See Control Panel illustration, also photographs, for callouts of the controls and connectors.

**CIRCUIT BREAKER:** Push red button at rear to reset circuit breaker. Turn power off before resetting.

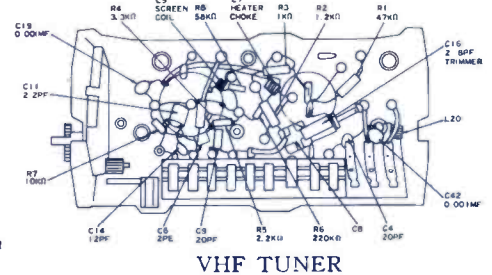
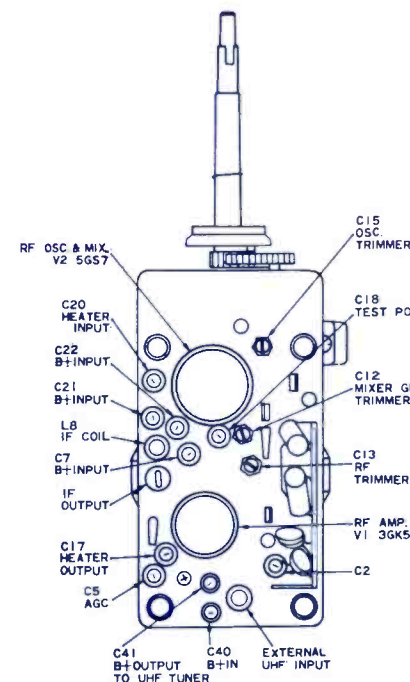
**REMOTE CONTROL:** The subject models can have either a wireless or a cord remote control installed. The wireless remote is model Mark 70 and the cord remote is model RMK-800. Installation is subject to the availability of the remote control unit.





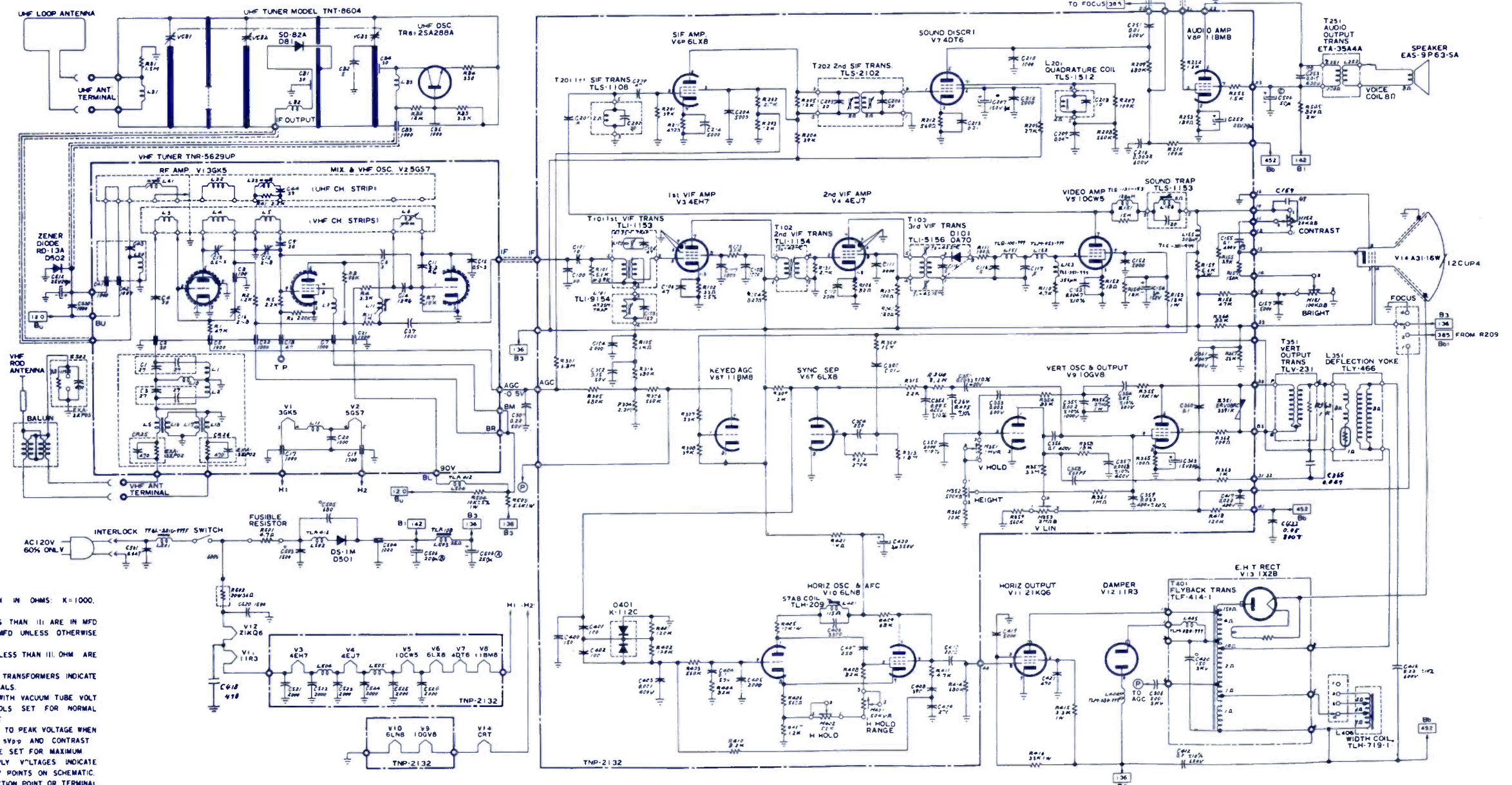
# PACKARD BELL

TV Models MSJ-202, MSJ-204



SYMBOL	DESCRIPTION	PACKARD BELL PART NO.
D401	phase discriminator, diode	TVM-K-112C
<b>XFORMERS &amp; COILS</b>		
T101	1st VIF xformer	TLI-1153
T102	2nd VIF xformer	TLI-1154
T103	3rd VIF xformer	TLI-5156
T201	1st SIF xformer	TL5-1108
T202	2nd SIF xformer	TL5-2102
T251	audio output xformer	ETA-35A4A
T351	vert output	TLV-231
T401	flyback xformer	TLF-414-1
L101	47.25MHz trap coil	TLI-9154
L156	4.5MHz trap coil	TL5-1153
L201	quad coil	TL5-1512
L152	peaking coil	TLM-053-999
L153	peaking coil	TLE-351-999
L351	deflection yoke	TLY-466

L401	horiz stab coil	TLH-209
L501	filter	TPQL-201D999F
L502	filter	TLP-412
L503	filter choke	TLP-108
L504	heater choke	TLP-407
<b>RESISTORS</b>		
R159	5.6K 3w, metal oxide	ERG-3P5K562
R355	10K, ±10% 1w carbon film	ERC-1P2K103
R356	27K ±10% 1w carbon film	ERC-1P2K273
R501	4.7Ω 4w fusible resistor	ERM-4P4R7
R502	18Ω 6w WW	ERM-6P180
<b>CONTROLS</b>		
H151	100K bright	EVV-M0AL26B15
H152	20K contrast	EVE-DDAL26B24
H251	1M volume	EVC-B0BL26A16
H351	1M, vert hold	EVD-06A520B16
H352	500K, vert linearity	EVT-V0A00B35
H353	2M, height	EVT-V0A00B26
H401	50K, horiz hold range	EVD-06A520B54
H402	50K, horiz hold	EVT-V0A00B54
Z351	varistor	EVR-0BRC3391K
<b>CAPACITORS</b>		
C506A	250μf elect	ECE-M175HBX1Z
B	200μf elect	
C	59μf elect	
<b>C-R COMBINATIONS</b>		
Z501		EXA-3ZP03
Z502		EXA-3ZP03



- (NOTES)
- RESISTANCES ARE SHOWN IN OHMS: K=1000, M=1,000,000.
  - CAPACITANCE VALUES LESS THAN (1) ARE IN MFD AND MORE THAN (1) IN MMFD UNLESS OTHERWISE NOTED.
  - COIL RESISTANCE VALUES LESS THAN (1) OHM ARE NOT SHOWN.
  - NUMERALS AT CONTROLS, TRANSFORMERS INDICATE NUMBER OF THOSE TERMINALS.
  - D.C. VOLTAGES ARE READ WITH VACUUM TUBE VOLT METER AND ALL CONTROLS SET FOR NORMAL PICTURE, NO SIGNAL INPUT.
  - ALL WAVEFORMS ARE PEAK TO PEAK VOLTAGE WHEN VIDEO INPUT IS SET TO 5VPP AND CONTRAST BRIGHTNESS CONTROLS ARE SET FOR MAXIMUM.
  - NUMERALS BESIDE SUPPLY POINTS ON SCHEMATIC INDICATE NUMBER OF THOSE SUPPLY POINTS ON SCHEMATIC.
  - MARKS ⊕ ⊖ INDICATE JUNCTION POINT OR TERMINAL OF THE PRINTED CIRCUIT BOARD, TUNER & FBTV.

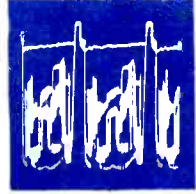




1 2.5 volts p/p, 15,750 cps



2 2.5 volts p/p, 60 cps



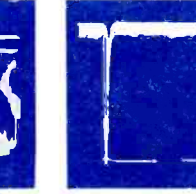
3 115 volts p/p, 15,750 cps



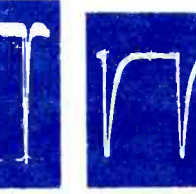
4 100 volts p/p, 15,750 cps



5 100 volts p/p, 60 cps



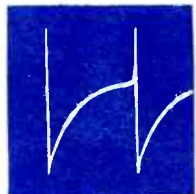
6 55 volts p/p, 60 cps



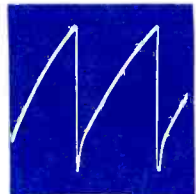
7 55 volts p/p, 15,750 cps



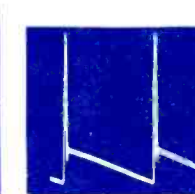
8 50 volts p/p, 60 cps



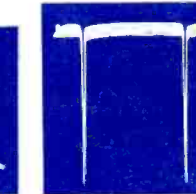
9 85 volts p/p, 60 cps



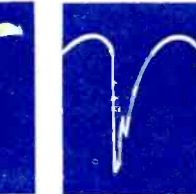
10 50 volts p/p, 60 cps



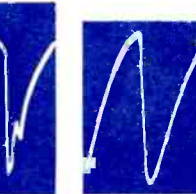
11 1300 volts p/p total, 130 volts p/p sawtooth, 60 cps



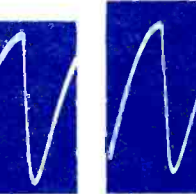
12 115 volts p/p, 60 cps



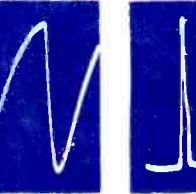
13 11.5 volts p/p, 15,750 cps



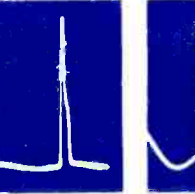
14 15 volts p/p, 15,750 cps



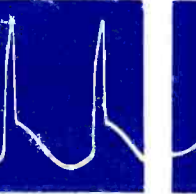
15 21 volts p/p, 15,750 cps



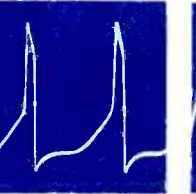
16 14 volts p/p, 15,750 cps



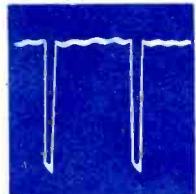
17 18 volts p/p, 15,750 cps



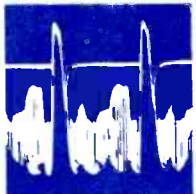
18 12 volts p/p, 15,750 cps



19 140 volts p/p, 15,750 cps



20 22 volts p/p, 15,750 cps



21 12 volts p/p, 15,750 cps

SYMBOL DESCRIPTION PHILCO-FORD PART NO.

CAPACITORS

- C58 - 500µf/20v, 15v supply 30-2614-2
- C59 - 500µf/20v, 15v supply 30-2164-2
- C62 - 160/10/50/50µf @200v filter 30-2616-1

DIODES

- D1 - 1N60C, AGC gate 34-8022-6
- D2 - 1N60D, AGC filter 34-8022-7
- D3 - zener, AGC 34-8057-10
- D4 - dual selenium, phase comp 34-8037-1
- D7 - silicon rect B+ 34-8054-11

COILS

- L1 - 40MHz det choke 32-4837-1
- L2 - chan 6 dropout 32-4645-7
- L3 - 390mh, video plate 32-4762-11
- L4 - 60MHz, damper plate 32-4112-62
- L5 - 3rd VIF 32-4884-5
- L6 - 470mh 2nd det 32-4762-22
- L7 - 60MHz damper cath 32-4112-62
- L8 - 330mh video plate series 32-4762-20
- L9 - quad sound det 32-4876-1
- L10 - 4.5MHz trap & sound take off 32-4688-13
- L11 - 2nd VIF 32-4885-7
- L12 - SIF interstage 32-4745-12
- L13 - choke, 2nd VIF base 32-4887-2
- L14 - 1st VIF 32-4885-6
- L15 - horiz stabilizer 32-4754-3
- L16 - tuner coupling 32-4652-96
- L17 - 47.25MHz trap 32-4652-78
- L18 - 41.25MHz trap 32-4652-80
- L19 - 1st base pole 32-4652-79
- L20 - 47.25MHz trap 32-4652-78
- L22 - 82mh, tuner AGC 32-4762-27
- L23 - choke, +15v supply 32-4887-2
- L24 - 82mh, tuner +15v 32-4762-27

NETWORKS

- N1 - vert integrator 30-6030-12
- N2 - vert retrace 30-6024-9
- N3 - phase comp 30-6035-2

TRANSISTORS

- Q1 - TV20, 3rd IF 34-6000-72
- Q2 - TV17, AGC gate 34-6001-63
- Q3 - TV18, AGC amp 34-6001-64
- Q4 - TV15B, 2nd IF 34-6000-70
- Q5 - TV15A, 1st IF 34-6000-69
- Q6 - TV17, noise switch 34-6001-63

RESISTORS

- R2A - 6.8K 5w video plate 33-1363-82
- R57 - varistor, vert damp 33-1373-6
- R59 - 2.2M boost 33-1373-6
- R67 - 100K, focus 33-1363-82
- R85 - 22K 2w UHF B+ 33-1363-152
- S1 - on-off pwr (part of VR5) switch

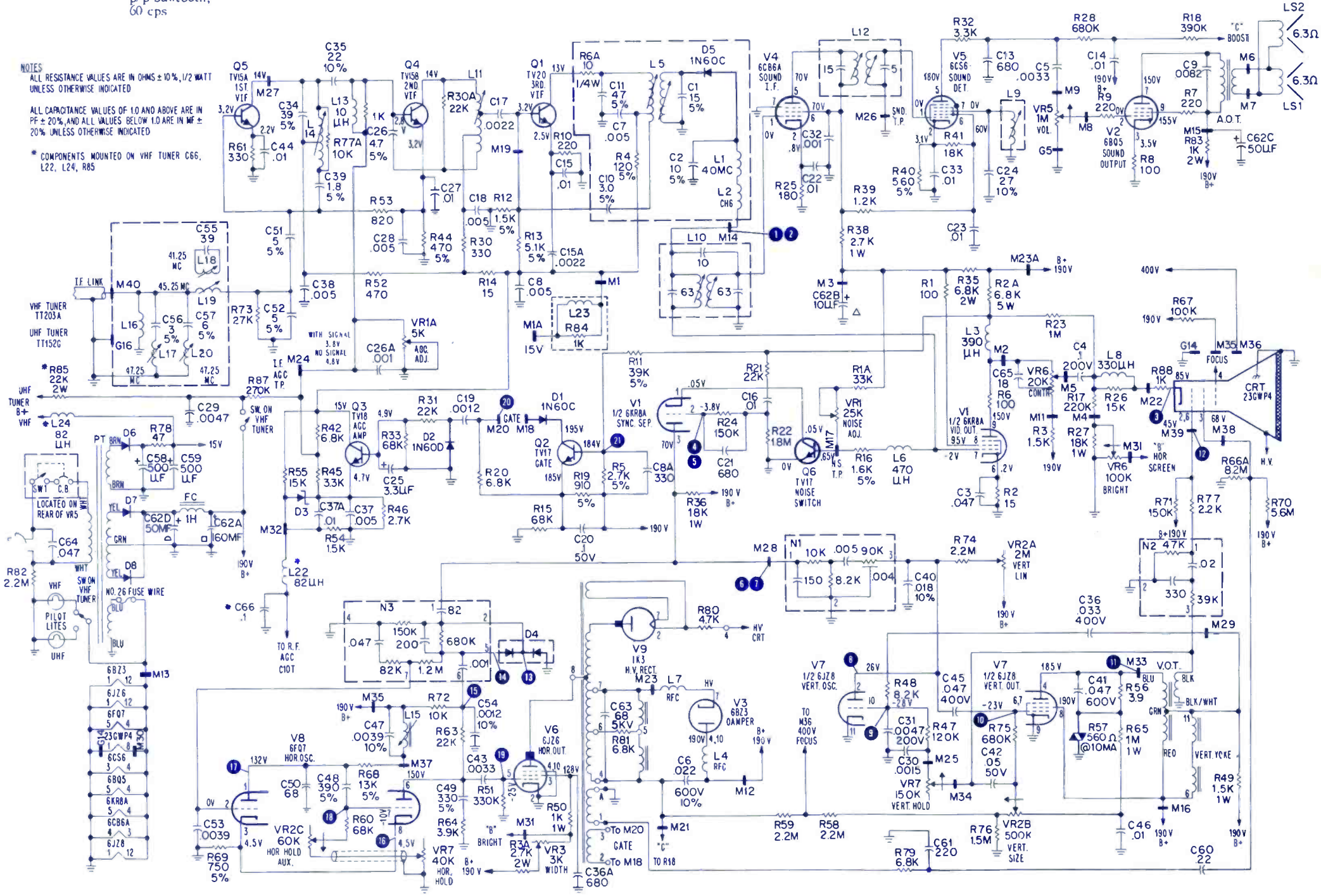
XFORMERS

- ADT - Audio output 33-10039-1
- FC - 1h, filter choke B+ 32-10010-9
- HOT - horiz output 32-10065-2
- PT - power 32-10064-1
- VOT - vert output 32-10012-8

CONTROLS

- VR1 - 25K, noise adjust 33-5613-9
- VR1A - 5K, AGC adjust 33-5613-9
- VR2 - 500K vert size 2M vert lin 60K horiz hold 33-5595-12
- VR3 - 3K, width 33-5609-9
- VR5 - 1M val on-off 33-5619-28
- VR6 - 100K bright 20K contrast 33-5618-34
- VR7 - 40K horiz hold 150K vert hold 33-5618-31
- UHF, tuner, TT152G 76-13827-7
- VHF, tuner, TT203A 76-13952-2
- yoke & cable Assy 76-12942-11

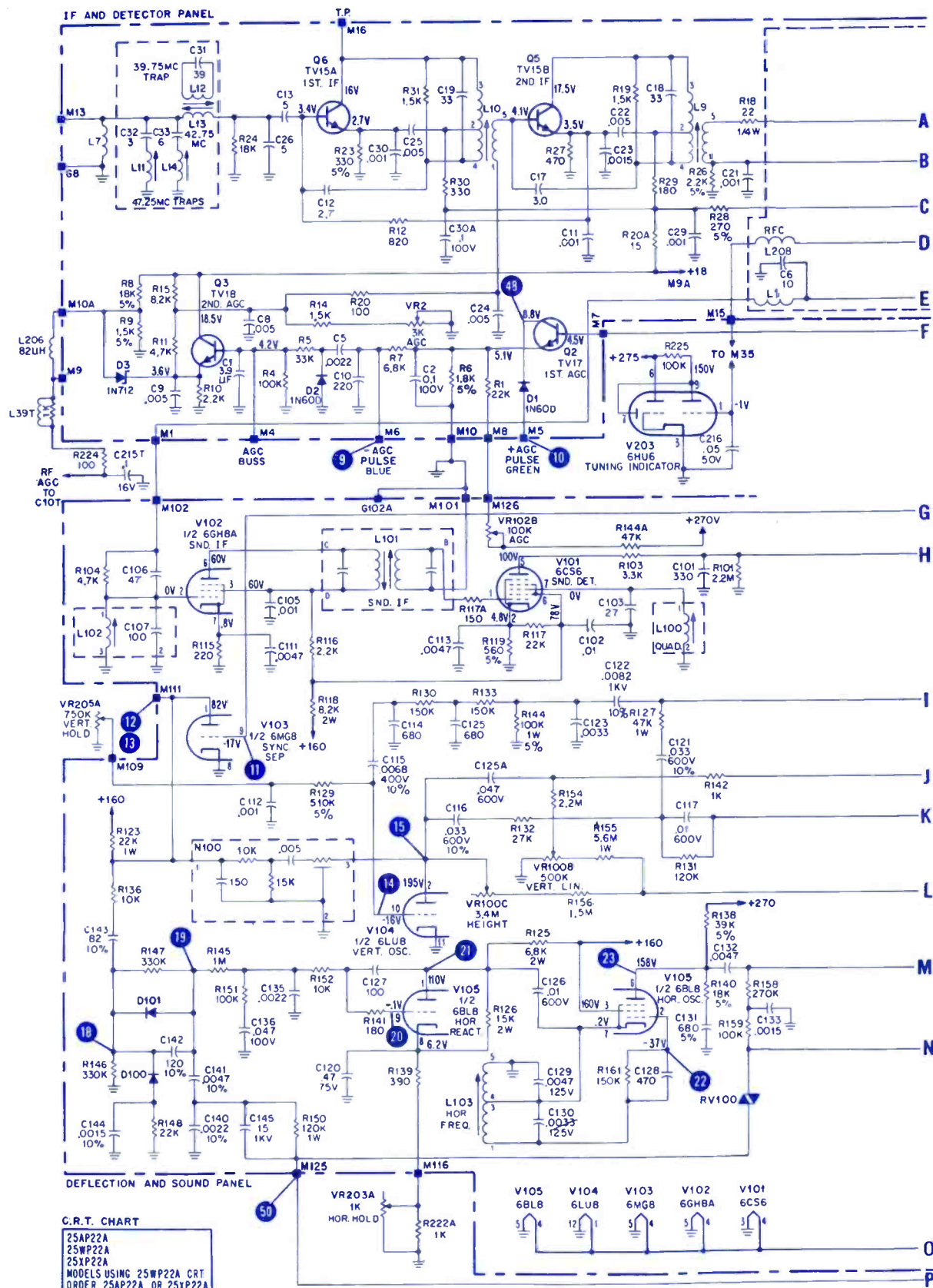
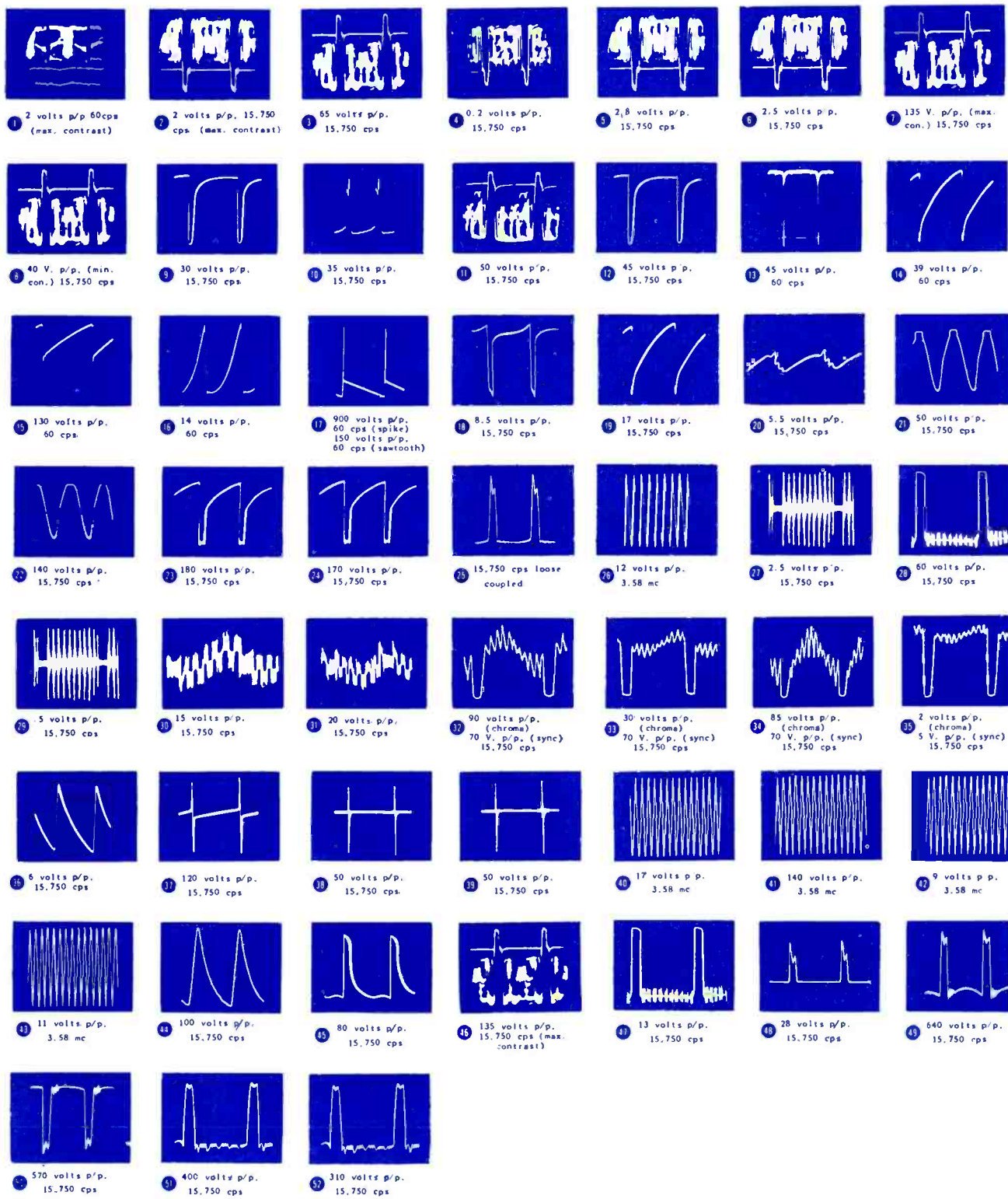
NOTES  
ALL RESISTANCE VALUES ARE IN OHMS ± 10%, 1/2 WATT UNLESS OTHERWISE INDICATED  
ALL CAPACITANCE VALUES OF 1.0 AND ABOVE ARE IN PF ± 20%, AND ALL VALUES BELOW 1.0 ARE IN MF ± 20% UNLESS OTHERWISE INDICATED  
\* COMPONENTS MOUNTED ON VHF TUNER C66, L22, L24, R85





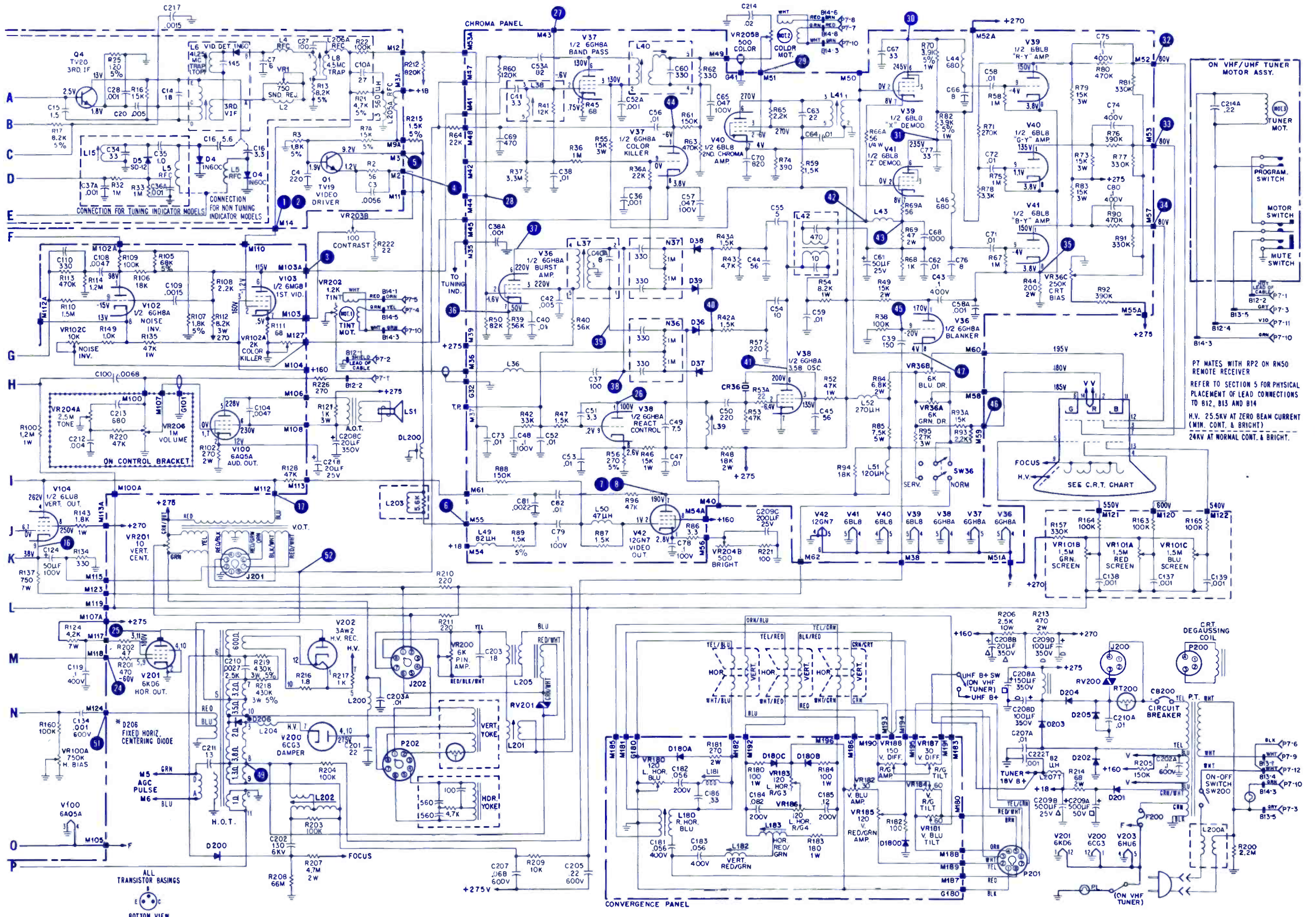
**OSCILLOSCOPE WAVEFORM PATTERNS 19QT85R CHASSIS**

These waveforms were taken with the receiver AGC control adjusted for an approximate peak-to-peak output of two volts at the video detector, using an air signal. Do not reset AGC control when using color bar generator. All monochrome voltages taken with average air signal and all chroma voltages taken with a color bar generator connected to the antenna input terminals. The chroma peak-to-peak voltages were taken with the chroma control set for 0.5V peak-to-peak at Pin 2 of V40 and the tint control set for proper color bars (approximately mid-range), all other controls set for normal viewing. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All voltages taken with a wide band scope having a 5MHz bandwidth similar to B & K Model 1450.



NOTES:  
 1. ALL VOLTAGES TAKEN WITH NO SIGNAL UNLESS OTHERWISE INDICATED.  
 2. ALL VOLTAGES TAKEN WITH B & K MODEL 175 VTVM WITH ALL CONTROLS SET FOR NORMAL.  
 3. RESISTANCES ARE TAKEN WITH YOKE & CONVERGENCE PANEL DISCONNECTED  
 4. BALLONS 1, 2, ETC. INDICATE WAVE FORM TEST POINTS  
 5. REFER TO SECTION 5 FOR REMOTE RECEIVER & TRANSMITTER SCHEMATIC.





ALL TRANSISTOR BASINGS  
BOTTOM VIEW

P7 MATES WITH RP2 ON RM50  
REMOTE RECEIVER  
REFER TO SECTION 5 FOR PHYSICAL  
PLACEMENT OF LEAD CONNECTIONS  
TO B12, B13 AND B14  
H.V. 25.5KV AT ZERO BEAM CURRENT  
(MIN. CONT. & BRIGHT)  
24KV AT NORMAL CONT. & BRIGHT.



**PHILCO-FORD**

TV Chassis 18J32

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

SYMBOL DESCRIPTION PHILCO-FORD PART NO.

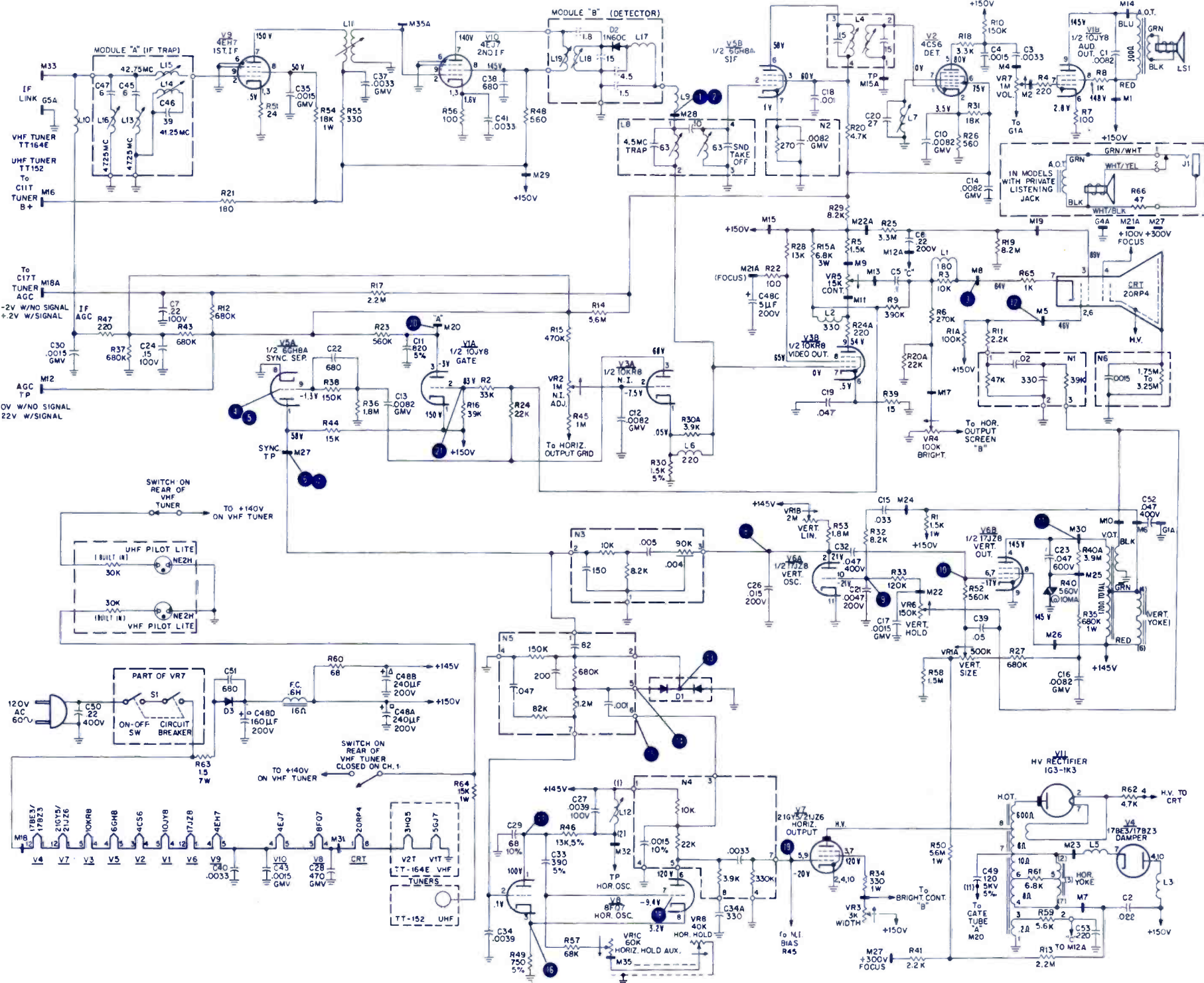
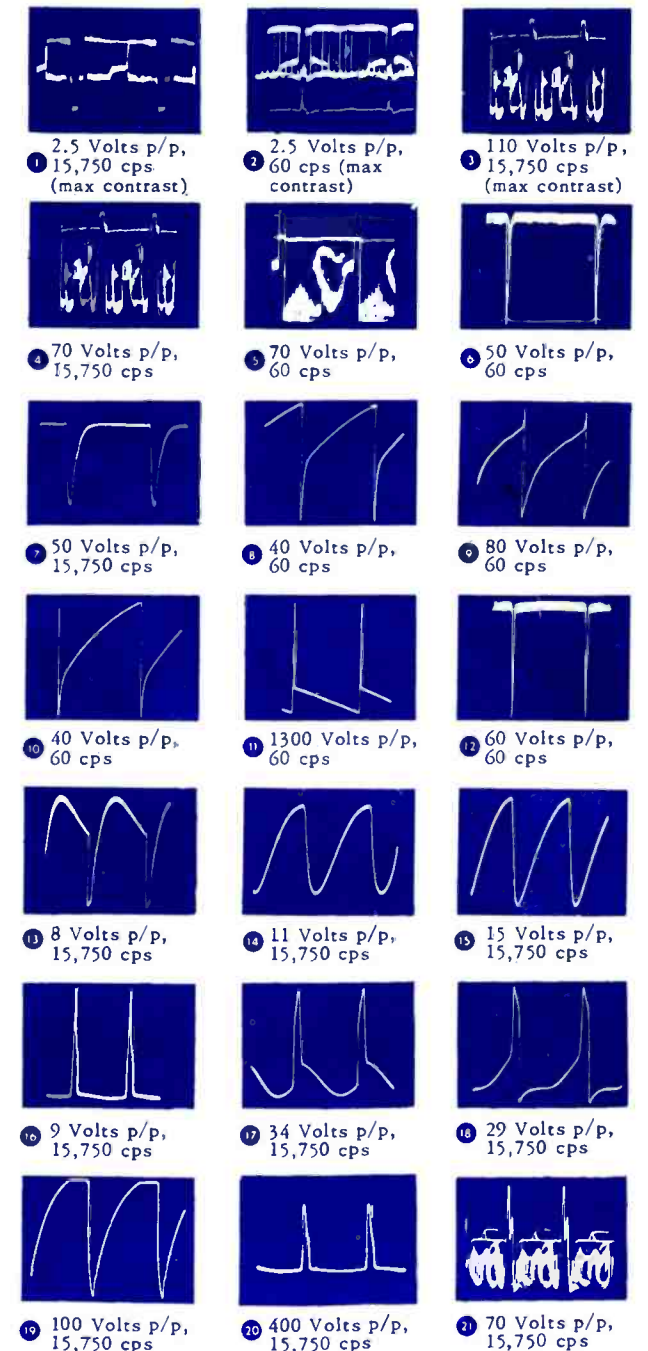
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
CAPACITORS		
C48	240-240-5-160μf/200v. filter	30-2601-33
DIODES		
D1	duol. phase comp	34-8037-1
D2	2nd det	34-8022-6
D3	silicon rect 8+	34-8054-7
COILS		
L1	180mh, video plate	32-4762-7
L2	330mh, video plate	32-4762-20
L3	60MHz choke, damper plate	32-4112-62
L4	interstage, sound IF	32-4745-12
L5	60MHz choke, damper cath	32-4112-62
L6	220mh noise inv cath	32-4762-25
L7	sound det quad	32-4876-1
L8	4.5MHz trap & sound TO	32-4688-13
L9	ch 6 beat, video det	32-4645-7
L10	tuner cplg	32-4652-96
L11	1st IF xformer	32-4686-34
L12	horiz stabilizer	32-4754-3
L13	47.25MHz trap	32-4652-78
NETWORKS		
N1	retroce supp	30-6024-9
N2	SIF cathode	30-6031-16
N3	vert integrator	30-6030-12
N4	horiz osc	30-6057-1
N5	phase comp	30-6035-2
N6	CRT isolation	30-6058-2
RESISTORS		
R40	varistor vert out	33-1373-6
R63	1.5Ω 7w fil drop	33-1363-134
S1	power on-off	part of VRI
XFORMERS		
AOT	audio output	32-10013-6

L14	41.25MHz trap	32-4652-80
L15	1st grid pole	32-4652-79
L16	47.25MHz trap	32-4652-78
L17	40MHz det choke	32-4837-1
L18	video det	32-4652-79
L19	2nd IF plate	32-4652-78
RESISTORS		
R40	varistor vert out	33-1373-6
R63	1.5Ω 7w fil drop	33-1363-134
S1	power on-off	part of VRI
XFORMERS		
AOT	audio output	32-10013-6

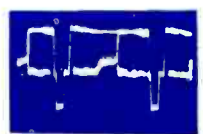
FC	filter choke	32-10010-11
HOT	horiz output	32-10008-7
VOT	vertical output	32-10012-5
CONTROLS		
VR1	2M vert lin 500K vert size	33-5595-8
VR2	1M, noise adjust	33-5613-1
VR3	3K, width	33-5620-6
VR4	100K, bright	33-5623-15
VR5	15K contrast	33-5623-13
VR6	100K, vert hold	33-5623-14
VR7	1M, vol-on-off w/cb	33-5623-2
VR8	40K horiz hold	33-5623-12
PERMA-CKT PANEL ASSY (complete)		
VIF det panel w/comp		38-10214
yoke & cable assy		76-12942-14
MECHANICAL PARTS		
UHF, tuner, TT-152		76-13827-1
VHF, tuner, TT-164E		76-13983-3

**OSCILLOSCOPE WAVEFORMS**

These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All readings taken with Model 1450 B&K Oscilloscope.







1 2.5 Volts p/p, 15,750 cps (max contrast)



2 2.5 Volts p/p, 60 cps (max contrast)



3 110 Volts p/p, 15,750 cps (max contrast)



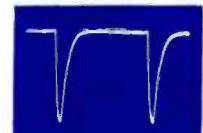
4 70 Volts p/p, 15,750 cps



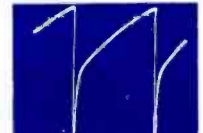
5 70 Volts p/p, 60 cps



6 50 Volts p/p, 60 cps



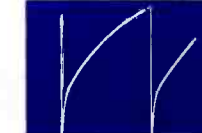
7 50 Volts p/p, 15,750 cps



8 40 Volts p/p, 60 cps



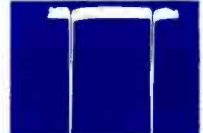
9 80 Volts p/p, 60 cps



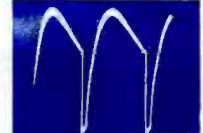
10 40 Volts p/p, 60 cps



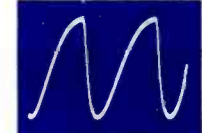
11 1300 Volts p/p, 60 cps



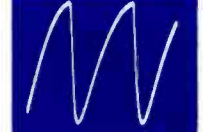
12 60 Volts p/p, 60 cps



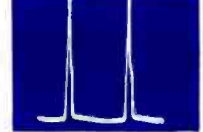
13 8 Volts p/p, 15,750 cps



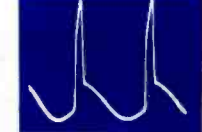
14 11 Volts p/p, 15,750 cps



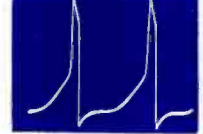
15 15 Volts p/p, 15,750 cps



16 9 Volts p/p, 15,750 cps



17 34 Volts p/p, 15,750 cps



18 29 Volts p/p, 15,750 cps



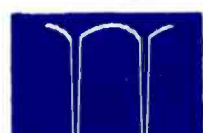
19 100 Volts p/p, 15,750 cps



20 400 Volts p/p, 15,750 cps



21 70 Volts p/p, 15,750 cps



22 45 Volts p/p, 15,750 cps

**OSCILLOSCOPE WAVEFORMS**

These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All readings taken with Model 1150 B & K Oscilloscope.

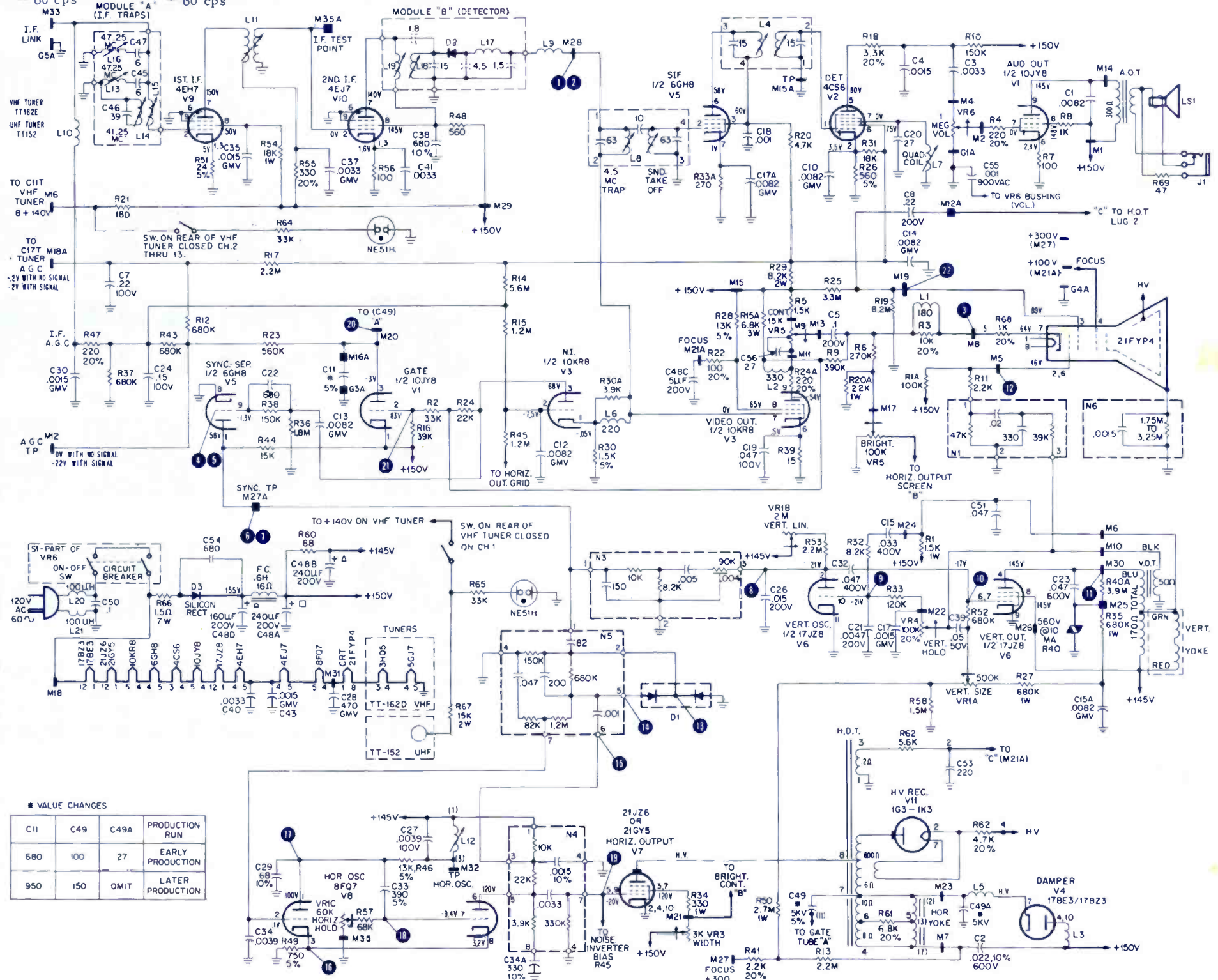
- NOTES: 1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS. ANTENNA REMOVED AND TUNER OFF CHANNEL.  
2. VOLTAGES MEASURED WITH A V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.  
3. COIL RESISTANCES READ WITH COIL IN CIRCUIT.  
4. BALLBOONS (10) (11) ETC. SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.  
5. CONTROL SETTINGS:  
VOLUME - MINIMUM  
CONTRAST - MID-RANGE  
BRIGHTNESS - MID-RANGE  
ALL OTHER CONTROLS SET FOR NORMAL OPERATION.

**PHILCO-FORD PART NO.**

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
<b>CAPACITORS</b>		
C48	240-240-5-160µf/200v, filter	30-2601-33
C49	100p/5kv, gate cplg (on yoke) (early prod)	30-1246-20
	150p/5kv, gate cplg (on yoke) (later prod)	30-1246-31
<b>DIODES</b>		
D1	dual-phase comp	34-8037-1
D2	2nd def	34-8022-6
D3	silicon rect B+	34-8054-7
<b>COILS</b>		
L1	180mh, video plate	32-4762-7
L2	330mh, video plate	32-4762-20
L3	60MHz choke, damper plate	32-4112-62
L4	interstage sound IF	32-4745-12
L5	60MHz choke, damper cathode	32-4112-62
L6	noise inv cathode	32-4762-25
L7	sound det quad	32-4876-7
L8	4.5MHz trap & sound TD	32-4688-13
L9	ch 6 beat, video det	32-4645-7
L10	tuner cplg	32-4652-96
L11	1st IF xformer	32-4652-78
L12	horiz stabilizer	32-4754-3
L13	47.25MHz trap	32-4652-78
L14	41.25MHz trap	32-4652-80
L15	1st grid pole	32-4652-79
L16	47.25MHz trap	32-4652-78
L17	40MHz trap	32-4837-1
L18	video det	32-4652-79
L19	2nd VIF plate	32-4652-78
L20	ac line choke	32-4857-1
L21	ac line choke	32-4857-1
<b>NETWORKS</b>		
N1	retrace supp	30-6024-9
N2	SIF cathode	30-6031-16
N3	vert inf	30-6030-12
N4	horiz osc	30-6057-1
N5	phase comp	30-6035-2
N6	CRT isolation	30-6058-2
<b>RESISTORS</b>		
R15A	6.8K 3w video plate	33-1376-6
R27	680K 1w vert bias	33-1363-134
R40	varistor, vert out	part of VR6
R66	1.512 7w fil drop	
S1	power, on-off, switch	
<b>XFORMERS</b>		
AOT	audio output	32-10013-4
FC	filter choke	32-10010-9
HOT	horiz output	32-10008-7
VOT	vert output	32-10012-10
<b>CONTROLS</b>		
VR1	2M vert lin 500K vert size 60K horiz hold	33-5595-8
VR2	1M, noise adjust (il provided)	33-5613-1
VR3	3K, width	33-5620-4
VR4	100K, vert hold	33-5623-22
VR5	100K brite, 15K cont	33-5618-32
VR6	1M, vol-on-off w/cb yoke & cable assy	33-5625-13
<b>MECHANICAL PARTS</b>		
UHF, tuner, TT152		76-13827-1
VHF, tuner, TT162D		76-13945-5

**VALUE CHANGES**

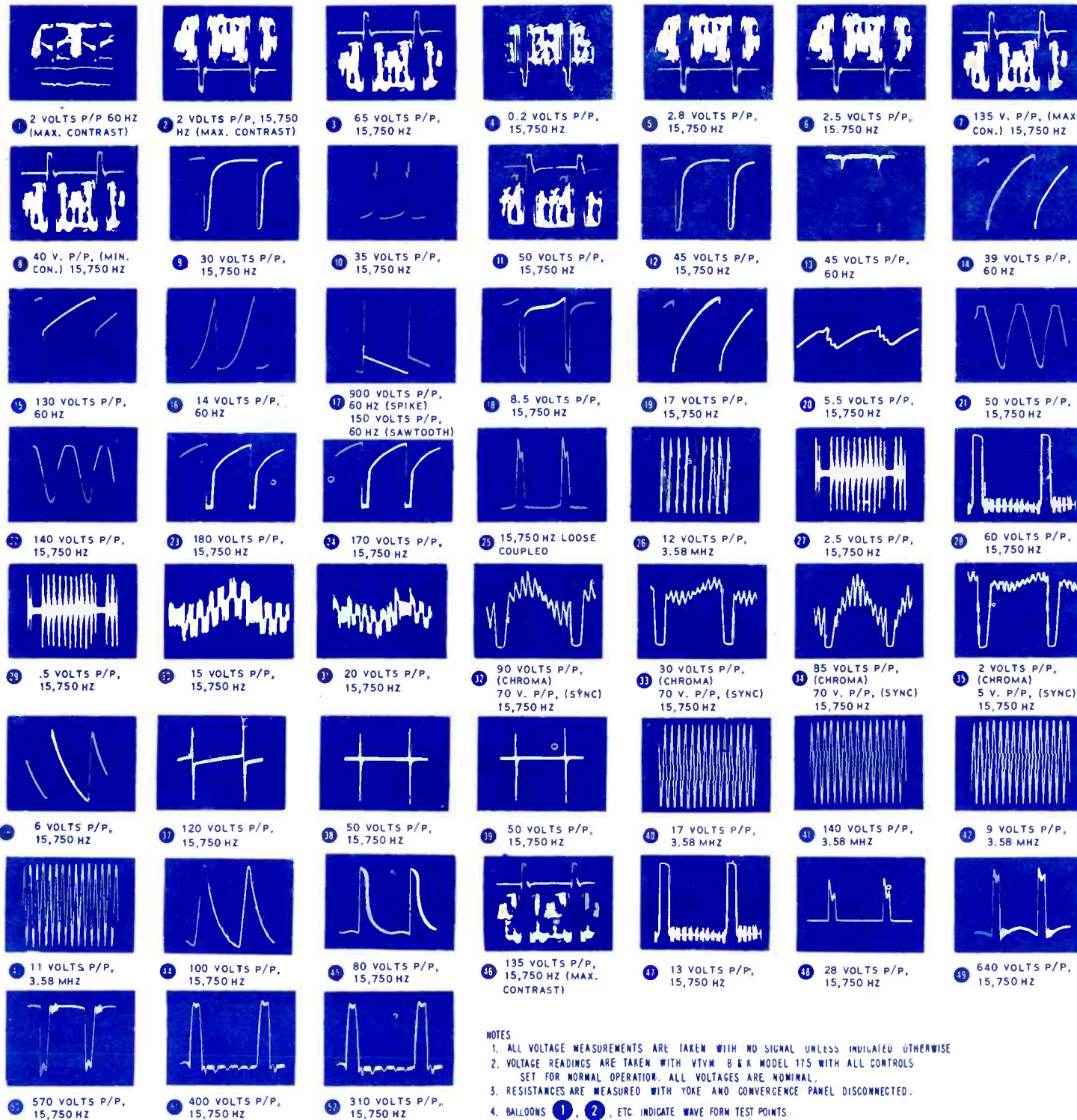
C11	C49	C49A	PRODUCTION RUN
680	100	27	EARLY PRODUCTION
950	150	OMIT	LATER PRODUCTION



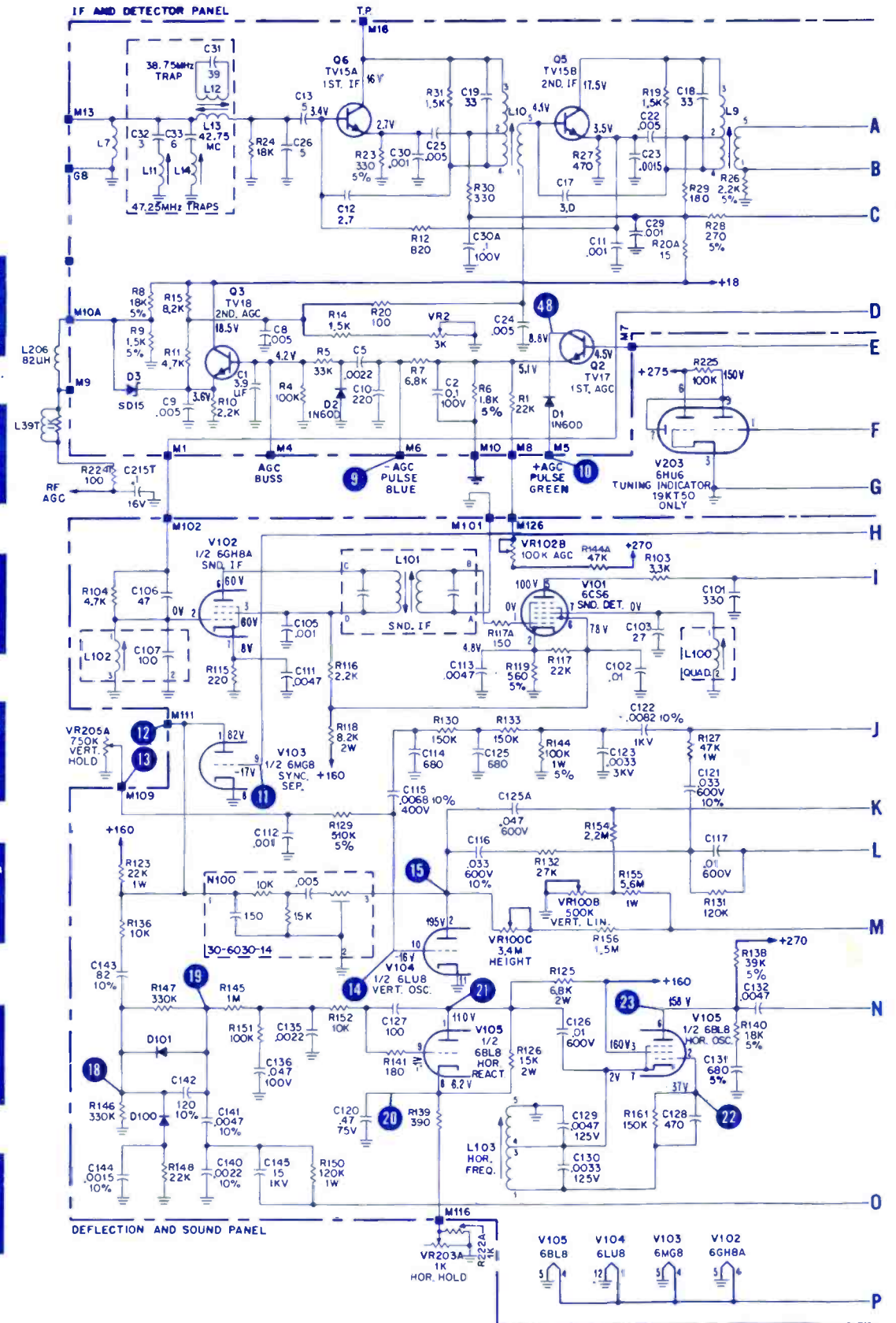


OSCILLOSCOPE WAVEFORM PATTERNS 19KT50/B CHASSIS

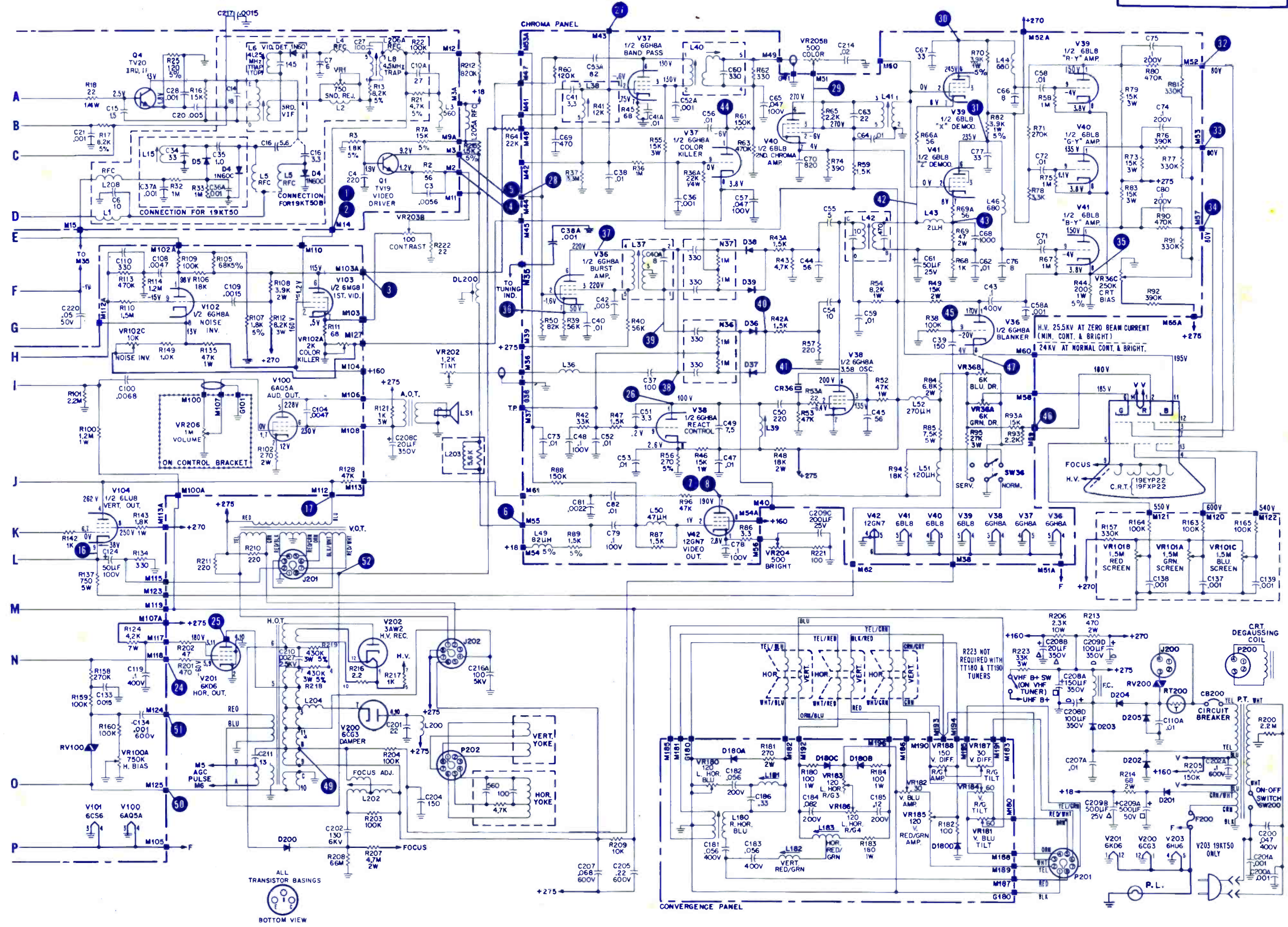
These waveforms were taken with the receiver AGC control adjusted for an approximate peak-to-peak output of two volts at the video detector, using an air signal. Do not reset AGC control when using color bar generator. All monochrome voltages taken with average air signal and all chroma voltages taken with a color bar generator connected to the antenna input terminals. The chroma peak-to-peak voltages were taken with the chroma control set for 0.5V peak-to-peak at Pin 2 of V40 and the tint control set for proper color bars (approximately mid-range), all other controls set for normal viewing. The frequencies shown are those of the waveforms.....not the sweep rate of the oscilloscope. All voltages taken with a wide band scope having a 5MHz bandwidth similar to B & K Model 1450.



NOTES  
1. ALL VOLTAGE MEASUREMENTS ARE TAKEN WITH NO SIGNAL UNLESS INDICATED OTHERWISE  
2. VOLTAGE READINGS ARE TAKEN WITH VTVM B & K MODEL 175 WITH ALL CONTROLS SET FOR NORMAL OPERATION. ALL VOLTAGES ARE NOMINAL.  
3. RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.  
4. BALLOONS 1, 2, ETC. INDICATE WAVE FORM TEST POINTS.

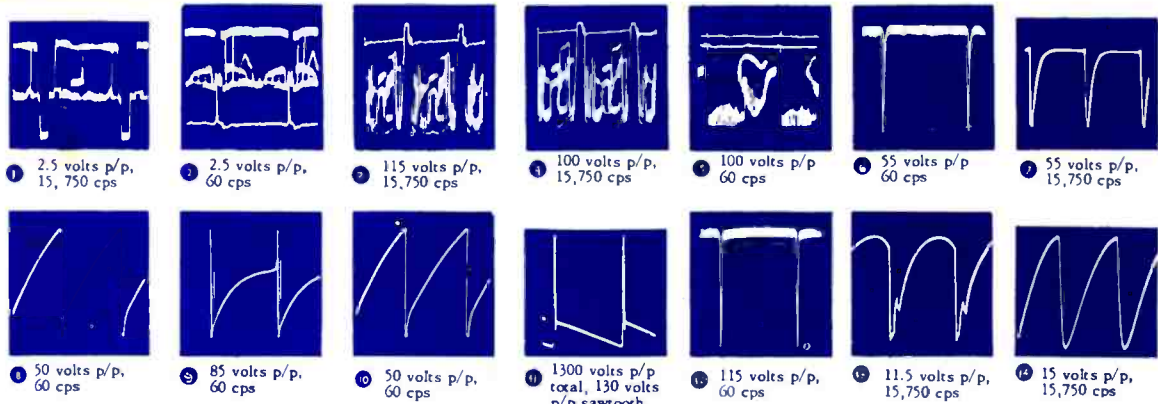




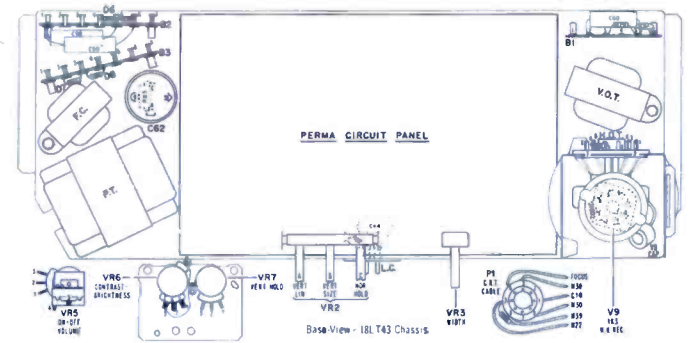


ALL TRANSISTOR BASINGS  
BOTTOM VIEW

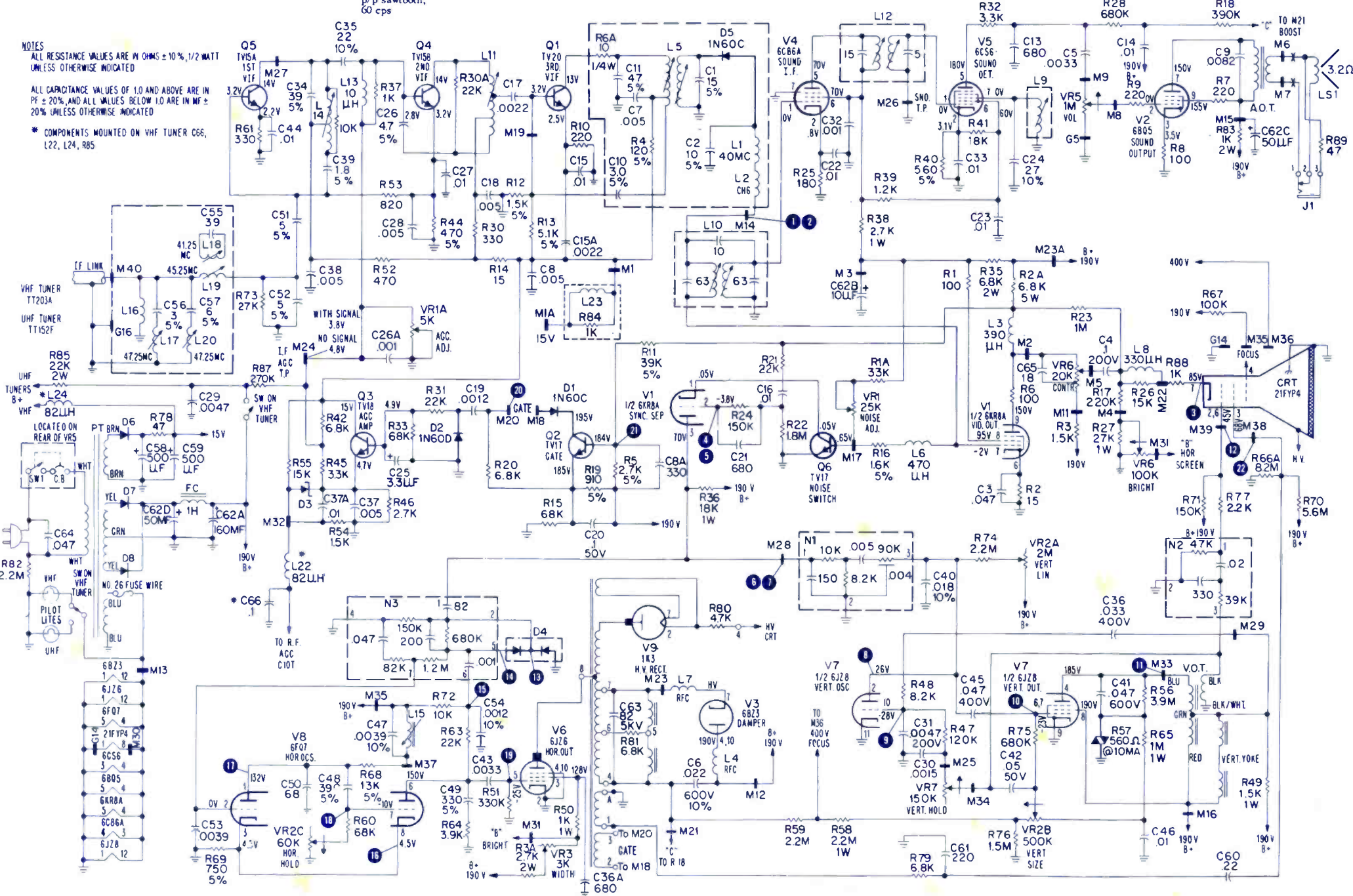




NOTES:  
 1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS. ANTENNA REMOVED AND TUNER OFF CHANNEL.  
 2. VOLTAGES MEASURED WITH A V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.  
 3. COIL RESISTANCES READ WITH COIL IN CIRCUIT.  
 4. BALLOONS SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.  
 5. CONTROL SETTINGS:  
 VOLUME - MINIMUM  
 CONTRAST - MID RANGE  
 BRIGHTNESS - MID RANGE  
 ALL OTHER CONTROLS SET FOR NORMAL OPERATION



NOTES  
 ALL RESISTANCE VALUES ARE IN OHMS ± 10%, 1/2 WATT UNLESS OTHERWISE INDICATED  
 ALL CAPACITANCE VALUES OF 1.0 AND ABOVE ARE IN PF ± 20%, AND ALL VALUES BELOW 1.0 ARE IN MF ± 20% UNLESS OTHERWISE INDICATED  
 \* COMPONENTS MOUNTED ON VHF TUNER C66, L22, L24, R85



**OSCILLOSCOPE WAVEFORMS**  
 These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All readings taken with Model 1450 B&K Oscilloscope.

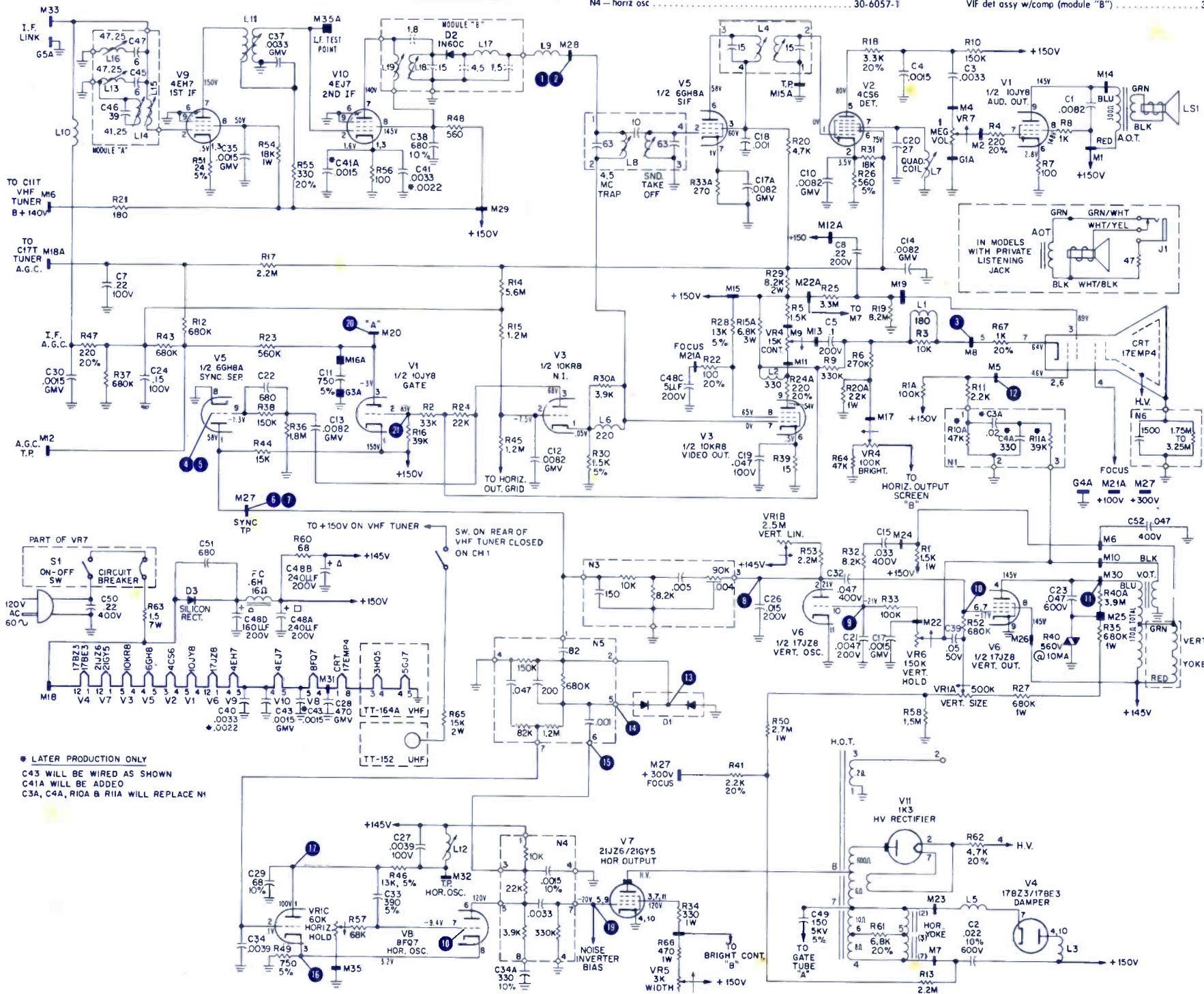
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
<b>CAPACITORS</b>		
C58	500/20µf, 15v supp	30-2614-2
C59	500/20µf, 15v supp	30-2614-2
C62	160/10/50/50µf @ 200v filter	30-2616-1
<b>DIODES</b>		
D1	1N60C, AGC gate	34-8022-6
D3	zener, AGC	34-8057-10
D6	silicon rect +15v	34-8054-7
D7	silicon rect 8+	34-8054-11
<b>COILS</b>		
L1	40MHz det choke	32-4837-1
L2	ch 6 dropout	32-4645-7
L3	390mh plate chunt	32-4762-11
L4	60MHz damper plate	32-4112-62
L5	3rd VIF	32-4884-5
L6	470mh 2nd det	32-4762-22
L7	60MHz video cath	32-4112-62
L8	330mh video plate series	32-4762-20
L9	quad	32-4876-1
L10	4.5MHz trap & snd take off	32-4688-13
L11	2nd VIF	32-4885-7
L12	SIF interstage	32-4745-12
L13	10µh 2nd VIF base	32-4887-2
L14	1st VIF	32-4885-6
L15	horiz stabilizer	32-4754-3
L16	tuner cplg	32-4652-96
L17	47.25MHz trap	32-4652-78
L18	41.25MHz trap	32-4652-80
L19	1st IF base pole	32-4652-79
L20	47.25MHz trap	32-4652-78
L22	82mh tuner AGC	32-4762-27
L23	choke + 15v supply	32-4887-2
L24	82mh, tuner + 15v	32-4762-27
<b>NETWORKS</b>		
N1	vert integrator	30-6030-12
N2	vert retrace	30-6024-9
N3	phose comp	30-6035-2
<b>TRANSISTORS</b>		
Q1	TV20, 3rd IF	34-6000-72
Q2	TV17, AGC gate	34-6001-63
Q3	TV18, AGC amp	34-6001-64
Q4	TV15B, 2nd IF	34-6000-70
Q5	TV15A, 1st IF	34-6000-69
Q6	TV17, noise switch	34-6001-63
<b>RESISTORS</b>		
R2A	6.8K 5w video plate	33-1363-82
R57	varistor, vert damp	33-1373-6
S1	on-off pwr (part al VR5) switch	
<b>XFORMERS</b>		
AOT	audio output	32-10039-1
FC	filter choke	32-10010-9
HOT	horiz output	32-10065-2
PT	power	32-10064-1
VOT	vert output	32-10012-8
<b>CONTROLS</b>		
VR1	25K, noise adjust	33-5613-9
VR1A	5K, AGC adjust	33-5613-5
VR2	2M vert lin 500K vert size & 60K horiz hold	33-5595-12
VR3	3K, width	33-5609-9
VR5	1M 00v w/cb	33-5619-28
VR6	100K bright; 20K contrast	33-5618-34
VR7	150K, vert hold	33-5619-27
<b>PERMA CIRCUIT PANELS</b>		
VIF trap w/comp		38-10113
<b>MISCELLANEOUS</b>		
UHF, tuner, TT152G		76-13827-7
VHF, tuner, TT203A		76-13955-2
yoke & cable assy		76-12942-8



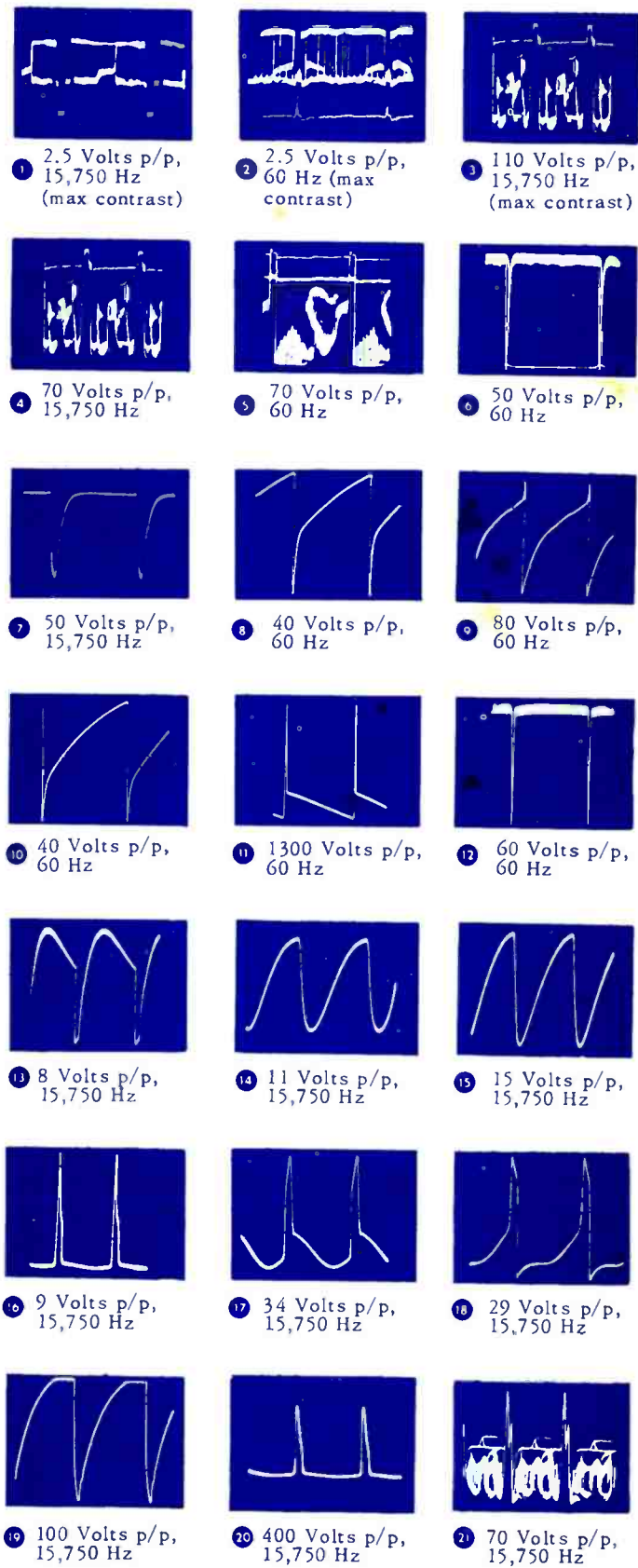
TUBE	USE	1	2	3	4	5	6	7	8	9	10	11	12
V1 10JY8	Aud. Out. & Gate	150V 12K $\Omega$	83V 36K $\Omega$	-3V 1.3M $\Omega$	FIL	FIL	2.8V 260 $\Omega$	0V 260 $\Omega$	148V 12K $\Omega$	145V 12K $\Omega$			
V2 4CS6	Sound Detector	0V 6 $\Omega$	3.5V 500 $\Omega$	FIL	FIL	80V 200K $\Omega$	75V 12K $\Omega$	0V 3.5 $\Omega$					
V3 10KR8	Video Out. & N.I.	.05V 300 $\Omega$	-7.5V 900K $\Omega$	68V 35K $\Omega$	FIL	FIL	5V 15 $\Omega$	0V 300 $\Omega$	65V 25K $\Omega$	54V 12K $\Omega$			
V4 17BE3	Damper	FIL	INF	INF	150V 12K $\Omega$	INF	INF	HV 9M $\Omega$	INF	INF	150V 12K $\Omega$	INF	FIL
V5 6GH8	3rd. IF & Sync. Sep.	58V 12K $\Omega$	0V 2 $\Omega$	60V 12K $\Omega$	FIL	FIL	58V 12K $\Omega$	1V 270 $\Omega$	GND	-1.3V 1.9M $\Omega$			
V6 17JZ8	Vert. Osc. & Output	FIL	21V 3.8M $\Omega$	INF	145V 12K $\Omega$	INF	-17V 1.8M $\Omega$	-17V 1.8M $\Omega$	145V 12K $\Omega$	GND	-21V 200K $\Omega$	GND	FIL
V7 21GY5	Horiz. Output	FIL	INF	120V GND	0V 300K $\Omega$	-20V 300K $\Omega$	120V 12K $\Omega$	120V 12K $\Omega$	120V 12K $\Omega$	-20V 300K $\Omega$	0V GND	120V 12K $\Omega$	FIL
V8 8FQ7	Horiz. Osc.	100V 25K $\Omega$	.1V 2.2M $\Omega$	3.2V 750 $\Omega$	FIL	FIL	120V 45K $\Omega$	-9.4V 95K $\Omega$	3.2V 750 $\Omega$	GND			
V9 4EH7	1st Vid. IF	.5V 24 $\Omega$	0V 420K $\Omega$	.5V 24 $\Omega$	FIL	FIL	GND	150V 20K $\Omega$	50V 20K $\Omega$	GND			
V10 4EJ7	2nd Vid. IF	1.6V 100 $\Omega$	0V 0 $\Omega$	1.6V 100 $\Omega$	FIL	FIL	GND	150V 12K $\Omega$	145V 12K $\Omega$	GND			

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C48	160/240/240/5 @ 200v elec fil	30-1293-43
C49	150pf 5kv, gate cplg	30-1246-31
D1	dual phase comp	34-8037-1
D2	1N60C, 2nd det	34-8022-6
L5	60MHz damper cath	32-4112-62
L6	noise inv. cath	32-4762-8
L7	quad snd det	32-4876-1
L8	4.5MHz trap & snd take-off	32-4688-14
L12	horiz stabilizer	32-4754-3
N1	retroce supp	30-6024-9
N3	vert integrator	30-6030-12
N4	horiz osc	30-6057-1

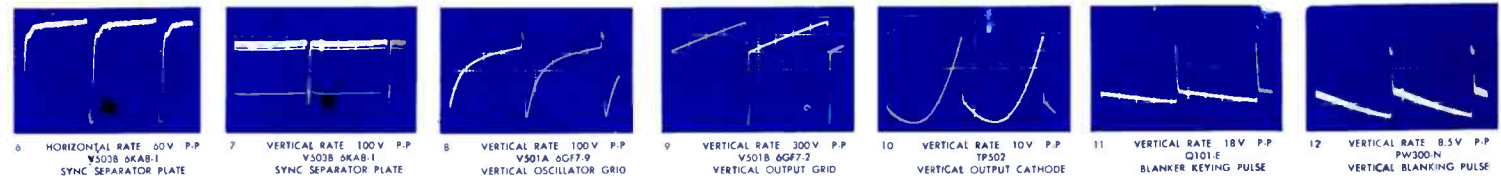
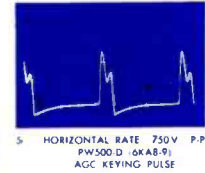
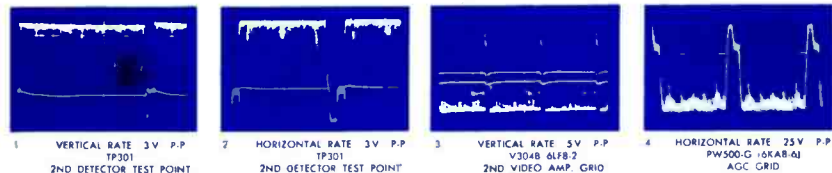
N5	phase comp	30-6035-2
N6	CRT isolation	30-6058-2
R15A	6.8K 3w video plate	33-1363-46
R40	varistor vert yoke	33-1373-6
S1	on-off w/cb (part of VR7)	
AOT	audio output	32-10013-2
FC	filter choke	32-10010-3
HOT	horiz output	32-10008-7
VOT	vert output	32-10012-6
VR1	500k vert size 2M v line 60KH hole	33-5595-8
VR4	100K bright 15K contr	33-5618-17
VR5	3K width	33-5620-1
VR6	150K vert hold	33-5619-9
VR7	1M vol on-off w/cb	33-5625-1
	VIF det Assy w/comp (module "B")	38-19392



\* LATER PRODUCTION ONLY  
C43 WILL BE WIRED AS SHOWN  
C41A WILL BE ADDED  
C3A, C4A, R10A & R11A WILL REPLACE M

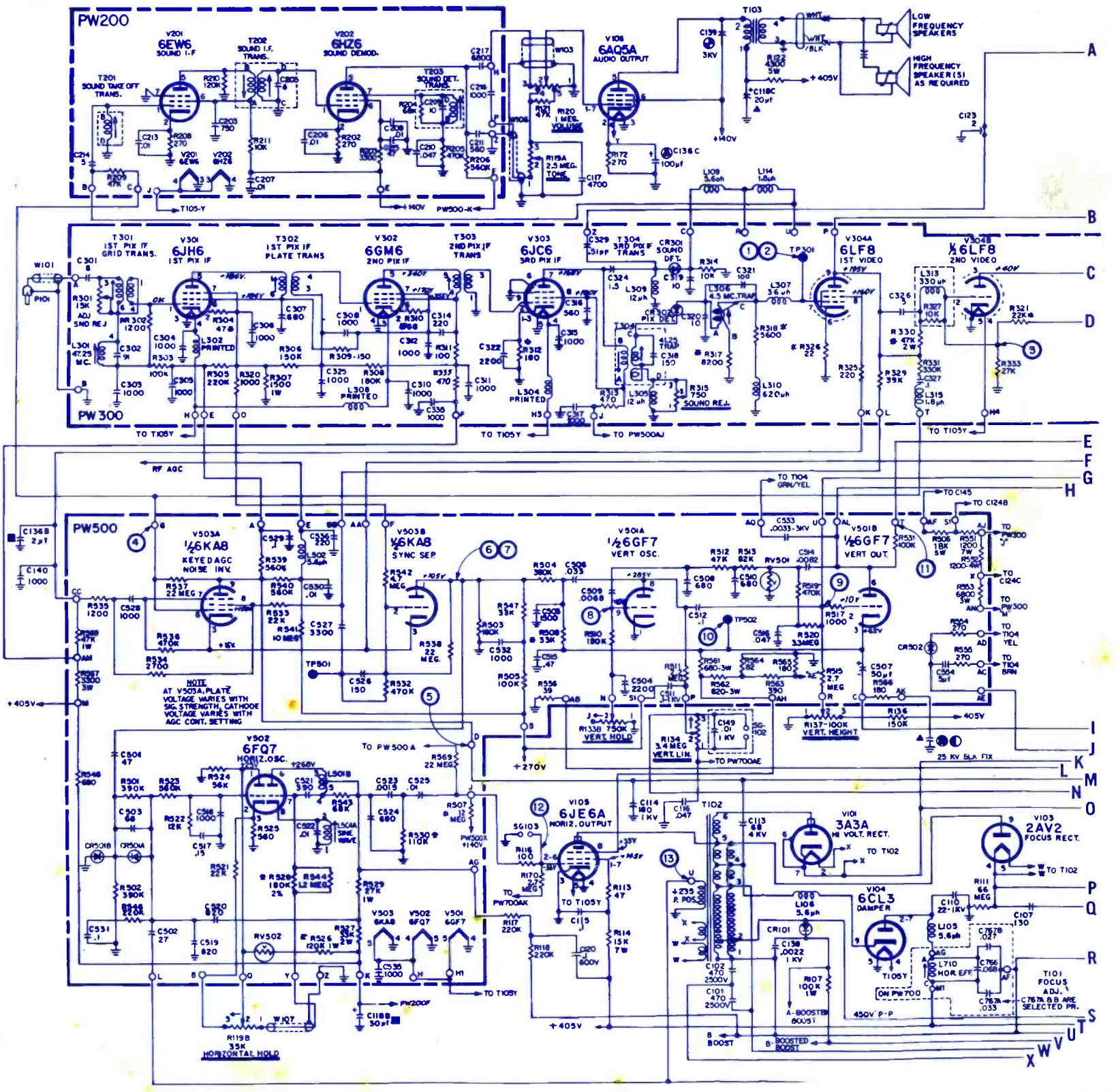




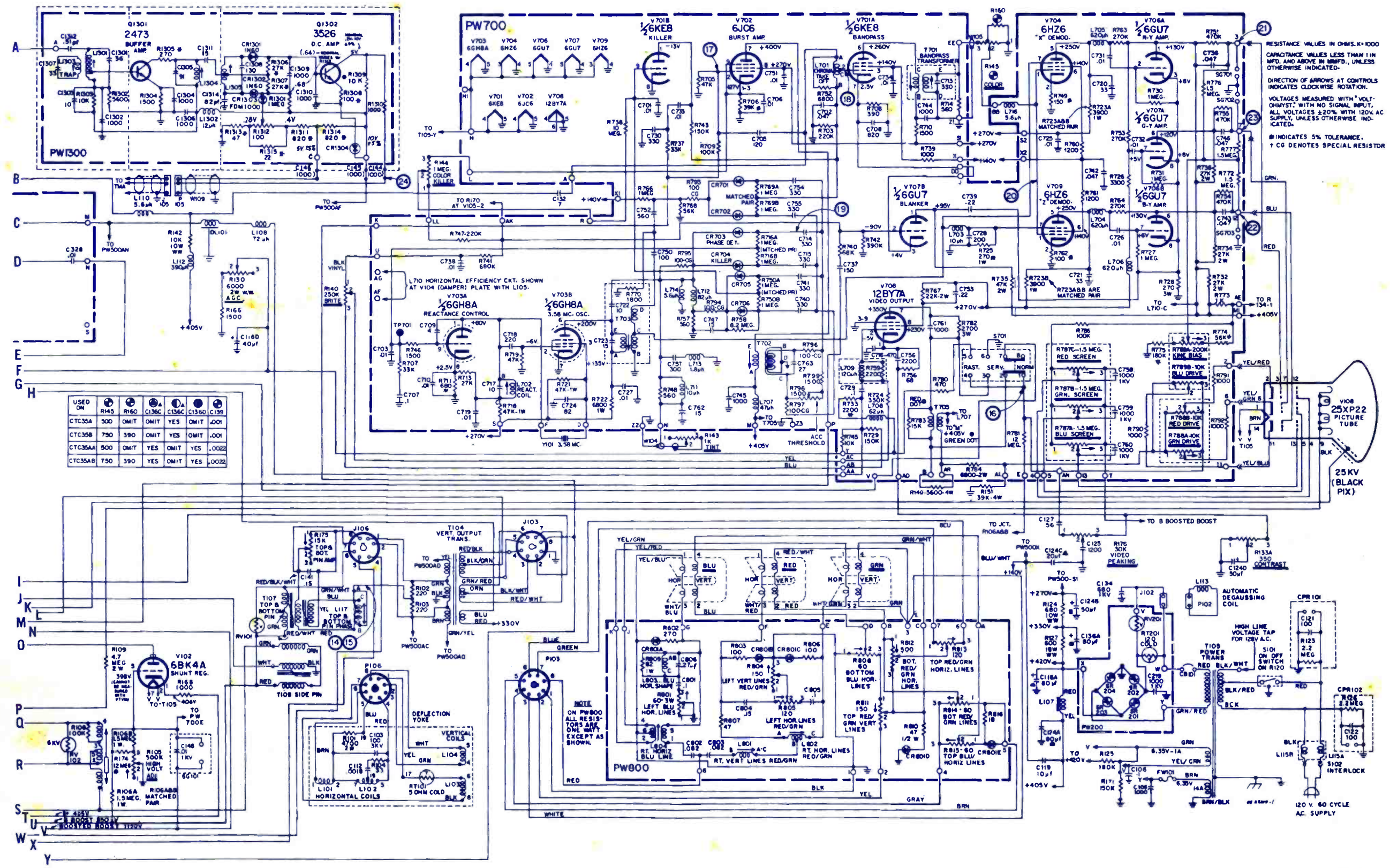
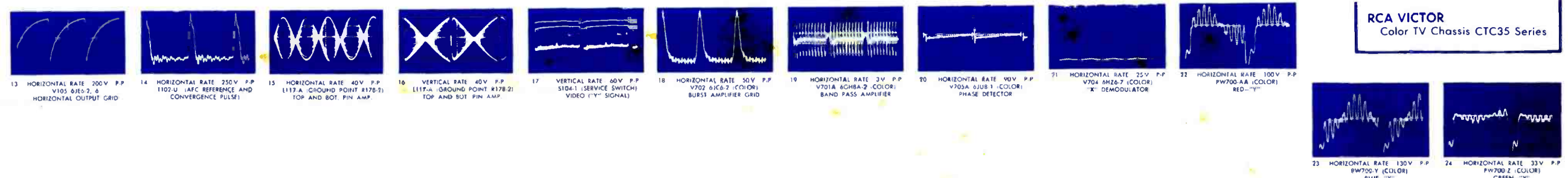


**CTC35 SERIES CHASSIS SIGNAL VOLTAGE WAVEFORMS**

SYMBOL	DESCRIPTION	RCA VICTOR PART NO.
<b>CAPACITORS</b>		
C101	470pF ±10% 2.5kv cer N2200	114602
C107	130pF ±20% 6kv cer N2200	109229
C113	68pF ±10% 4kv cer N1500	112847
C118	4 section elect	114001
A	80µF 450v	
B	20µF 450v	
C	30µF 450v	
D	40µF 150v	
C124	4 section elect	112827
A	80µF 450v	
B	20µF 250v	
C	50µF 450v	
D	50µF 50v	
C136	3 elect	115869
A	80µF 450v	
B	25µF 25v	
C	2µF 350v	
C139	1000pF ±10% 3kv cer	120696
C511	0.1µF ±20% 1kv paper	119586
C524	680pF ±5% 500v, mica	218468
C531	0.1µF ±20% 100v mylar	
C533	0.0033pF ±10% 3kv cer	120347
C534	5µF 10v elect NP	115868
C713	300pF ±5% 500v, mica	
C714	330pF ±5% 500v, mica	79191
C728	200pF ±5% 500v, mica	922153
C757	300pF ±5% 500v, mica	
C767A	0.033µF 600v, paper (matched pair)	121576
C767B	0.027µF 600v	121576
C8101	breaker-circuit, 1.75v	1139550
<b>DIODES</b>		
CR101	800 PIV of 2mo	113391
CR301	sound det	112524
CR302	pix det	112524
CR501A	selenium	109474
CR1301	1N60	112524
CR1304	zener 10v at 4ma	119594
DL101	line-delay	119593
FW101	fuse-wire #26 AWG	102792
<b>COILS</b>		
L105	5.6µH	109171
L107	filter	112829
L108	72µH	77842
L109	5.6µH	109171
L110	5.6µH	116643
L114	1.8µH	109248
L115A	filter choke	117526
L117	pin phase	114594
L301	47.25MHz trap	115844
L306	4.5MHz	105295
L307	36µH	101819
L310	620µH	113404
L313	330µH	114345
L501A	horiz frequency	112866
L502	5.6µH	109171
L701	chroma take-off	119592
L702	reactance control	112874
L704	620µH	109257
L710	horiz efficiency	122918
L714	5.6µH	119590
L801	right vert red/grn lines	114597
L802	right red/grn horiz lines	114598
L804	right horiz blue lines	116580
L1301	45.75MHz trap	119599
L1303	45.75MHz trap	119598
L1304	45.75MHz trap	119600
<b>CONNECTORS</b>		
Q1301	transistor 2A73	116080
Q1302	transistor 3526	119636
<b>RESISTORS</b> ±10%, 1/2w composition unless noted otherwise		
R102	220Ω	502122
R106A	1.5M, 1w (matched pair)	109235
R111	66M, 6kv	114651
R122	4.3K, 5w	112852
R124	680Ω 10w WW	114631
R127	600Ω 18w WW	114632
R142	10K 10w WW	102241
R149	5.6K 4w	105222
R151	39K 4w	105753
R506	18K 5w	
R507	12M ±5%	502612
R508	33K ±5%	229526
R551	1.2K 7w	109414
R552	1.2K 4w	112849
R553	6.8K 3w	105662
R561	680Ω 3w WW	114628
R562	820Ω 3w WW	120310
R567	3.3K 3w WW	114005
R716A	1M (matched pair)	112863
R762	100Ω ±5%	224249
R774	56K ±5%	502356
R775	180K ±5%	502418
R782	2.7K 3w	109013
RT201	thermistor, 120Ω	107191
RV101	varistor, 175v at 1ma	114707
RV102	varistor, 870v at 1ma	112876
RV201	varistor, 20v at 67ma	116534
RV501	varistor, 175v at 1ma	112876
RV502	varistor, 110v at 1ma	114862
S701	switch, service	121553
S105	HV adj.	112842
R119A	control-tone, horiz hold	122334
R120	control-volume (on TMA)	
R130	control-AGC	116558
R133A	control-contrast, vert hold	122335
R134	control-vert linearity	114020
R137	control-vert height	122176
R140	control-bright (on TMA)	
R143	control-lin, CTC35A	122336
R144	control-lin, CTC35B	122333
R144	control-color killer	112841
R145	control-color, CTC35A	122337
R145	control-color, CTC35B	122332
R175	control-top and bottom pin omp	122116
R176	control-video peaking	119116
R301	control-sound rej	116457
R315	control-sound rej	114319
R787A	control-red/blue-grn screen	121574
R788A	control-red/grn kinescope drive	122114
R798	control-ACC threshold	122768
R801	control-left blue horiz lines	102949
R804	control-left vert lines red/grn	109472
R805	control-left red/grn horiz lines	106320
R808	control-bottom blue horiz lines	105059
R811	control-top red/grn vert lines	109472
R812	control bottom red/grn vert lines	114623
R813	control-top red/grn horiz lines	106320
R814	control-bottom red/grn vert lines	105059
R815	control-top blue horiz lines	105059
R1312	control-reference adj	119611
<b>CAPACITORS</b>		
SG101	spork gap, 10,000pF, 1kv	117139
SG103	spork gap, 0.75pF, 1kv	116636
SR201	diode-1N3195	113998
<b>XFORMERS</b>		
T101	focus adj	113999
T102	HV	115876
T103	audio	119170
T104	vert output	122118
T105	power	115838
T107	top and bottom pin cushion	122119
T108	side pin cushion	121560
T201	1st sound IF	109261
T202	ratio det	112870
T203	quad	106383
T301	1st pix IF	109252
T302	2nd pix IF	113547
T303	3rd pix IF	116458
T304	41.25MHz trap	112871
T701	band pass	114003
T702	burst phase	114004
T703	3.58MHz	119633
T705	video output	122121
Y101	crystal-3.58MHz	105330
RT101	thermistor-temperature compensating 5Ω cold (part of yoke)	114742
	yoke-deflection	114741
	transmitter-CRK9A, 7 button remote control	101110
	VHF tuner assembly KRK 131EF	
	UHF tuner assembly KRK 132UB, KB, LB	





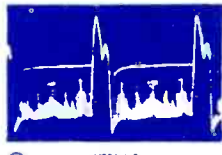




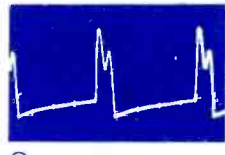
RCA VICTOR

Color TV Chassis  
CTC31 Series

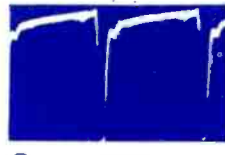
ELECTRONIC TECHNICIAN / DEALER **TEKFAK**



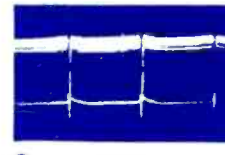
5 V206-A-2  
AGC GRID  
HORIZONTAL RATE 30V P.P.



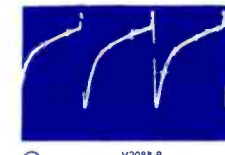
6 V206-A-4  
AGC KEYING PULSE  
HORIZONTAL RATE 650V P.P.



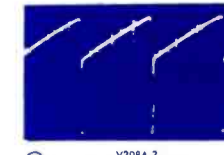
7 V206-B-1  
SYNC SEPARATOR PLATE  
HORIZONTAL RATE 70V P.P.



8 V206-B-1  
SYNC SEPARATOR PLATE  
VERTICAL RATE 70V P.P.

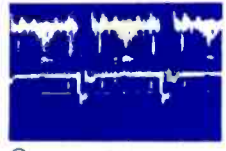


9 V208B-9  
VERTICAL OSCILLATOR GRID  
VERTICAL RATE 90V P.P.

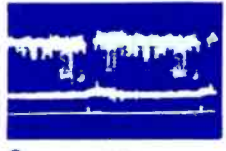


10 V208A-2  
VERTICAL OUTPUT GRID  
VERTICAL RATE 230V P.P.

NOTE: Voltage Waveforms taken with a wideband oscilloscope using a low capacitance probe. Color Bars from the WR64B Color Bar/Dot/Crosshatch Generator used for the chroma circuit voltage waveforms.



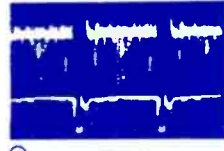
1 TP202  
2nd DETECTOR TEST POINT  
HORIZONTAL RATE 4V P.P.



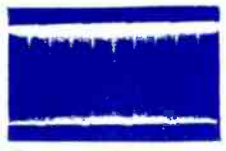
2 TP202  
2nd DETECTOR TEST POINT  
VERTICAL RATE 4V P.P.



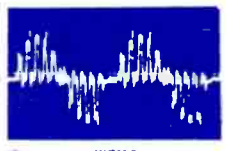
3 PW700-AE  
1st VIDEO LUMINANCE SIGNAL  
VERTICAL RATE 2.5V P.P.



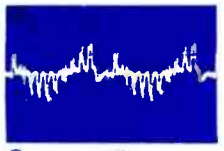
4 PW700-AE  
1st VIDEO LUMINANCE SIGNAL  
HORIZONTAL RATE 2.5V P.P.



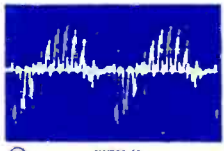
21 T703A  
3.58 MC OSCILLATOR OUTPUT  
HORIZONTAL RATE 6V P.P.



22 PW700-3  
R-Y  
HORIZONTAL RATE 100V P.P.



23 PW700-7  
G-Y  
HORIZONTAL RATE 35V P.P.



24 PW700-12  
B-Y  
HORIZONTAL RATE 100V P.P.

SYMBOL DESCRIPTION RCA VICTOR PART NO.

CAPACITORS

Table listing capacitor specifications and part numbers, including C101 through C810.

DIODES

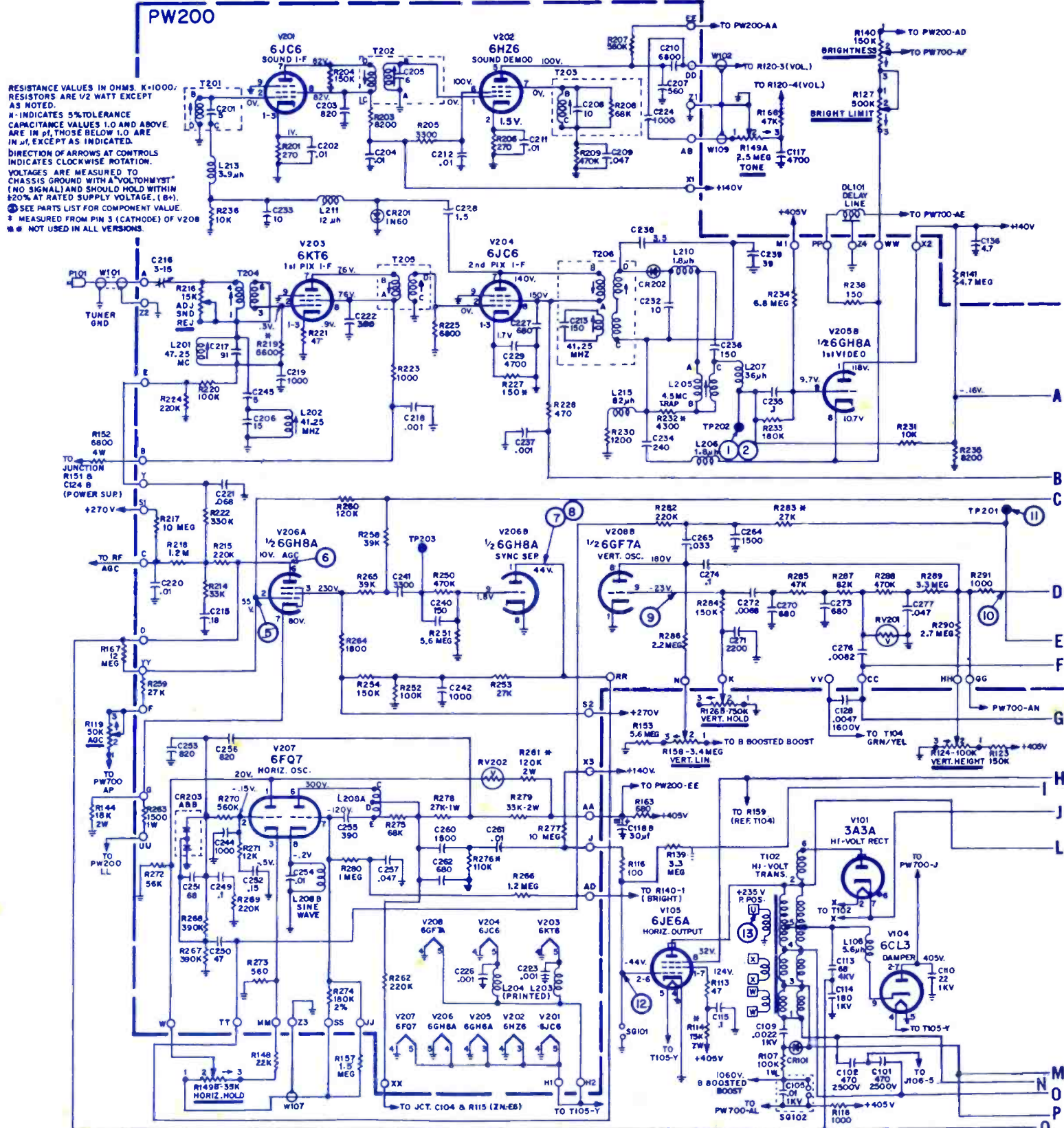
Table listing diode specifications and part numbers, including CR102 through CR801A.

COILS

Table listing coil specifications and part numbers, including L105 through L708.

Table listing transformer and other component specifications and part numbers, including L710 through Q702.

Table listing resistor specifications and part numbers, including R111 through R2101.



RESISTANCE VALUES IN OHMS, K=1000, RESISTORS ARE 1/2 WATT EXCEPT AS NOTED. K INDICATES 5% TOLERANCE. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF, THOSE BELOW 1.0 ARE IN uF, EXCEPT AS INDICATED. DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN ±20% AT RATED SUPPLY VOLTAGE. (B+). SEE PARTS LIST FOR COMPONENT VALUE. \* MEASURED FROM PIN 3 (CATHODE) OF V208. # NOT USED IN ALL VERSIONS.

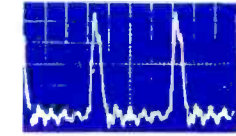




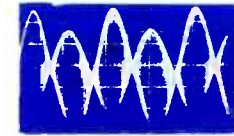
11 TP201  
VERTICAL OUTPUT CATHODE  
VERTICAL RATE 15V P-P



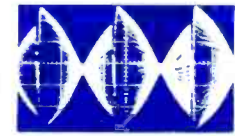
12 V105-2, 6  
HORIZONTAL OUTPUT GRID  
HORIZONTAL RATE 235V P-P



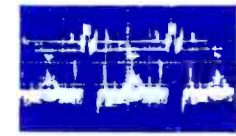
13 I102-U ATFC REFERENCE  
AND CONVERGENCE PULSE  
HORIZONTAL RATE 235V P-P



14 J106-7 TO L107-A  
TOP AND BOTTOM PIN PHASE  
HORIZONTAL RATE 40V P-P



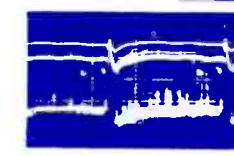
15 J106-7 TO L107-A  
TOP AND BOTTOM PIN PHASE  
VERTICAL RATE 40V P-P



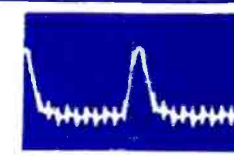
16 V205-B  
SYNC, AGC CHROMA AMPLIFIER  
HORIZONTAL RATE 170V P-P



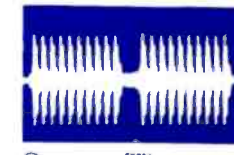
17 PW700-K  
VIDEO (Y) SIGNAL  
HORIZONTAL RATE 150V P-P



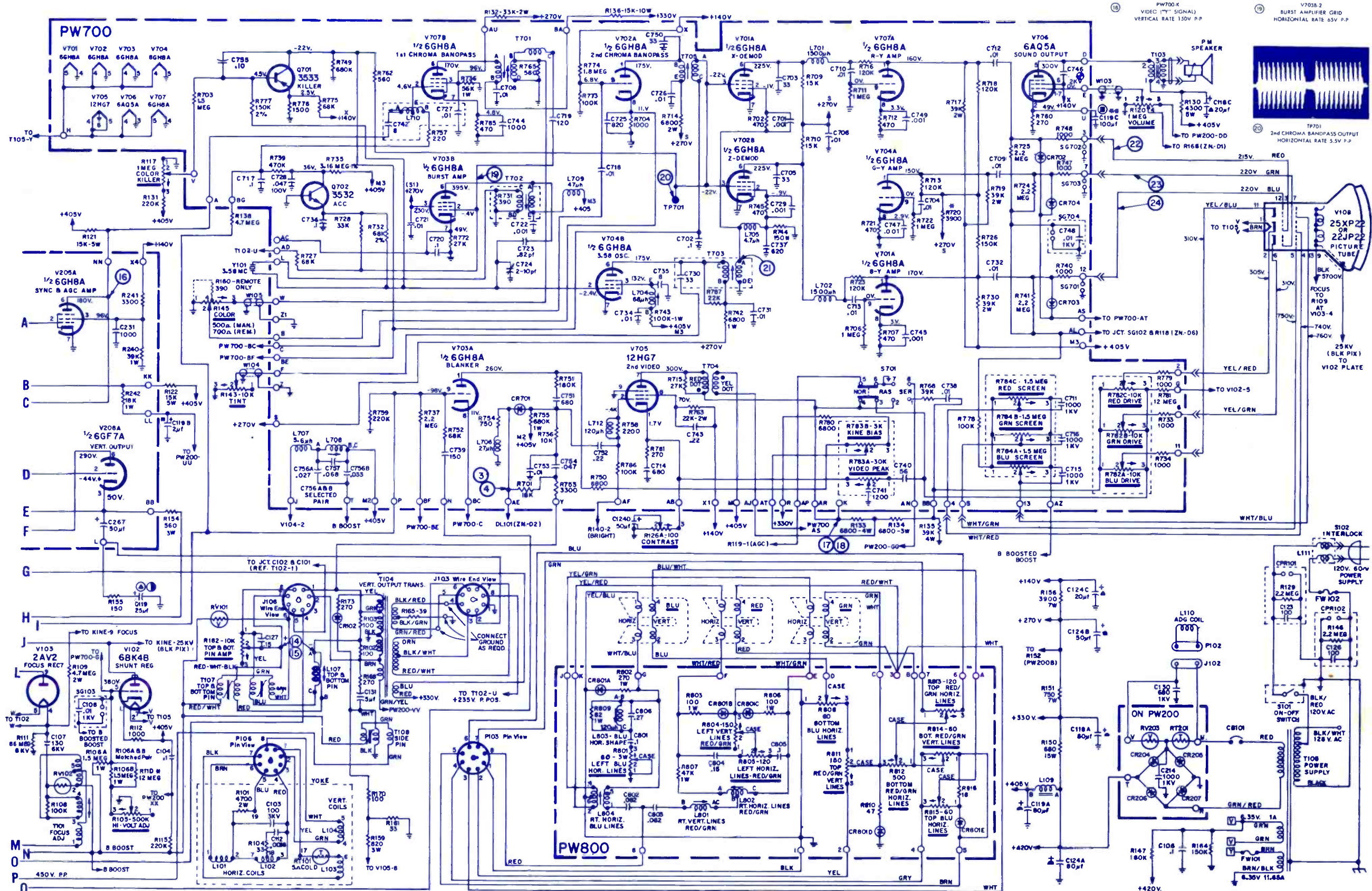
18 PW700-K  
VIDEO (Y) SIGNAL  
VERTICAL RATE 130V P-P



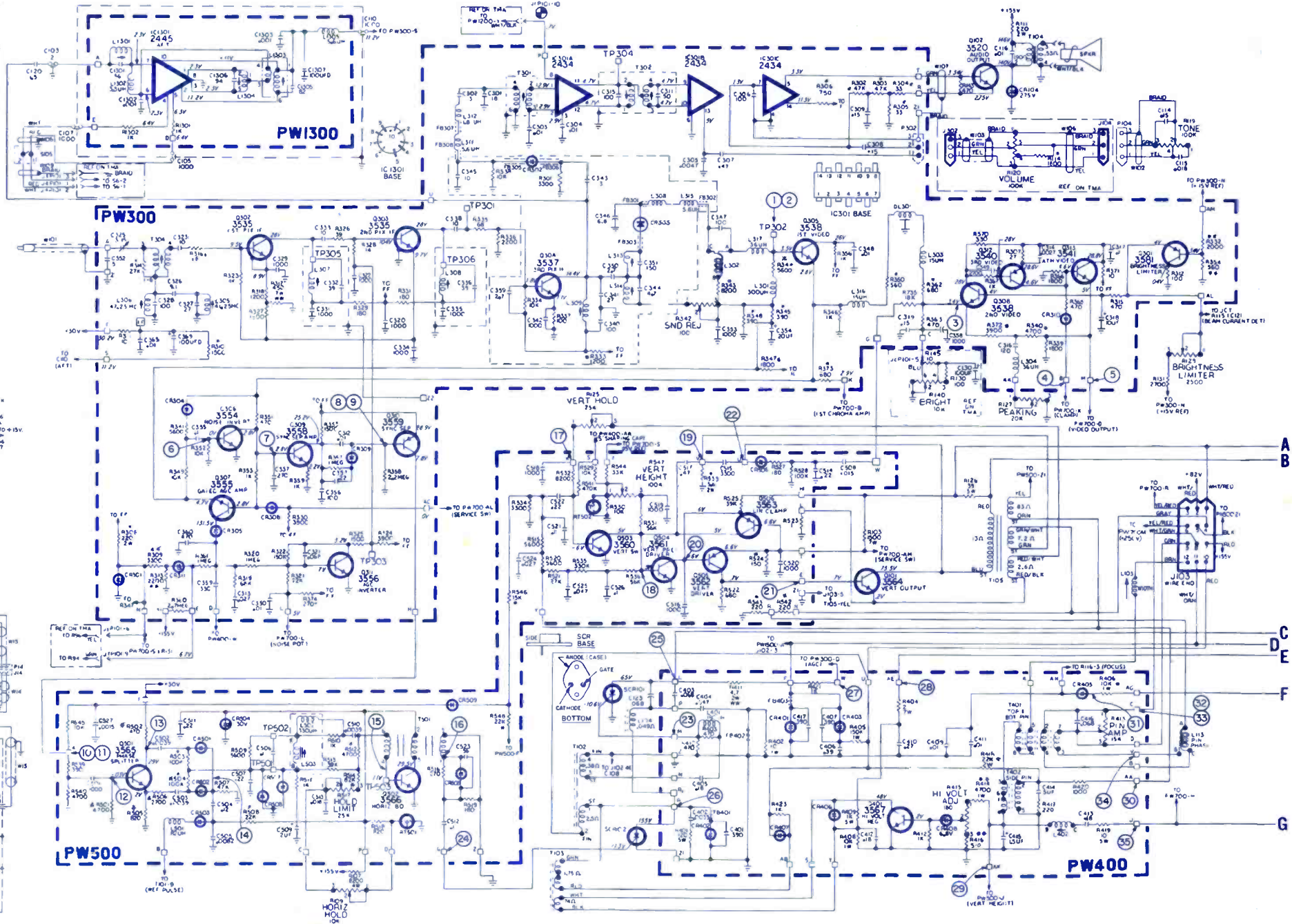
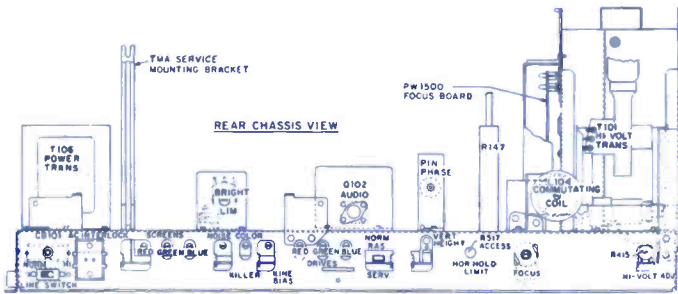
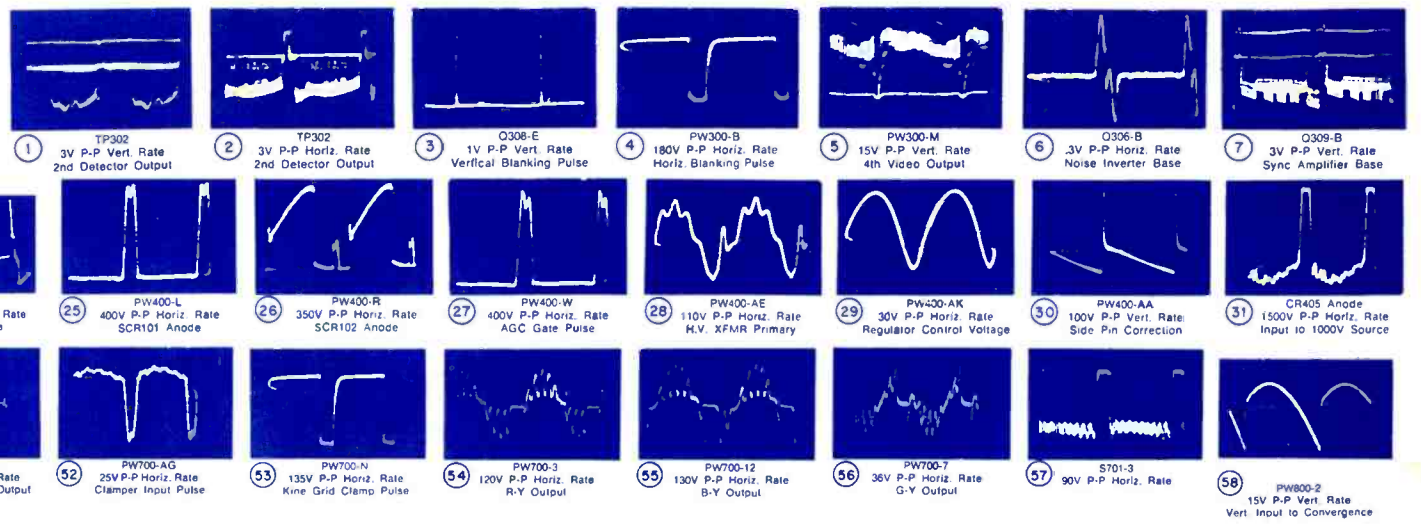
19 V703B-2  
BURST AMPLIFIER GRID  
HORIZONTAL RATE 65V P-P



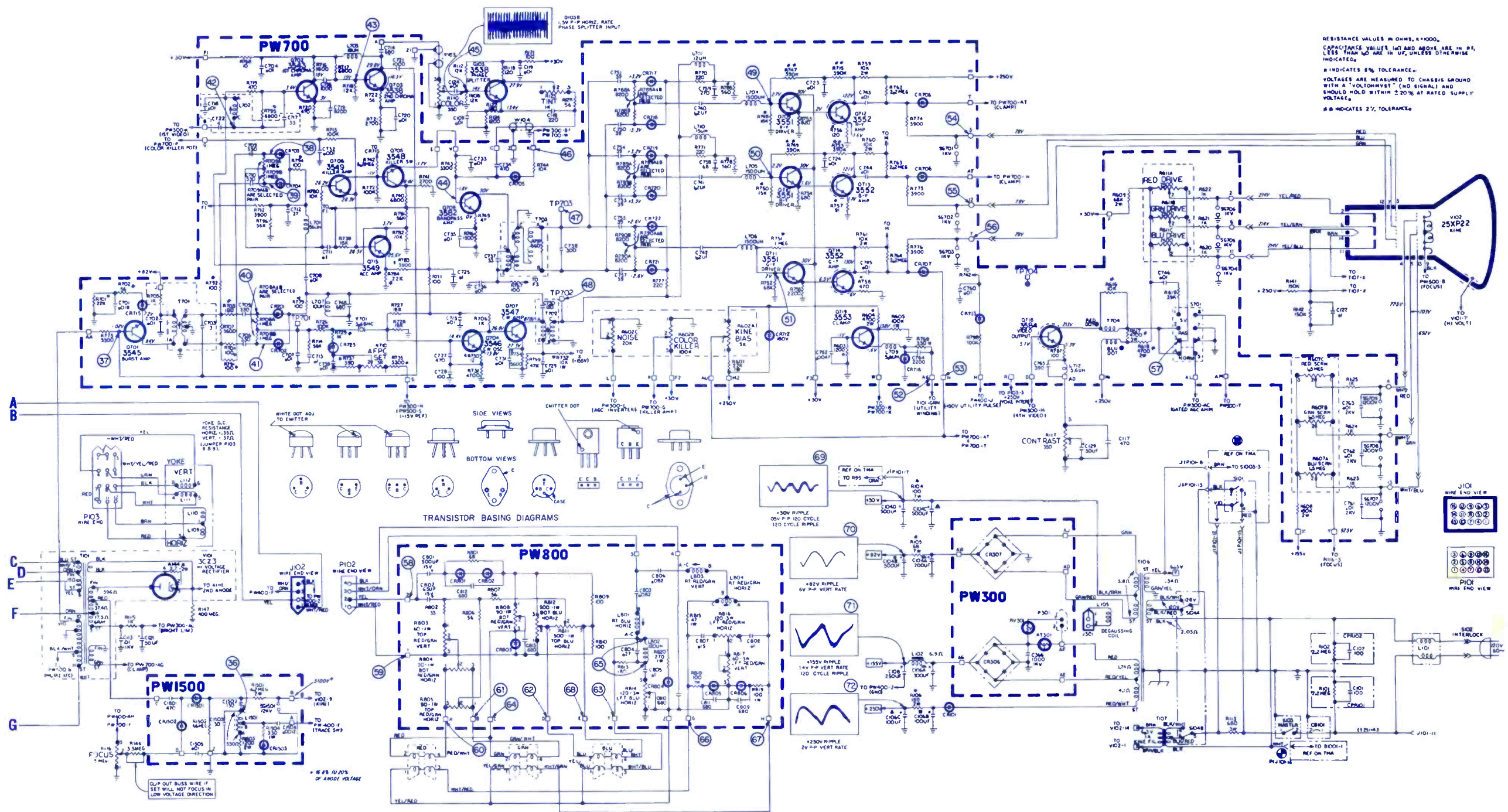
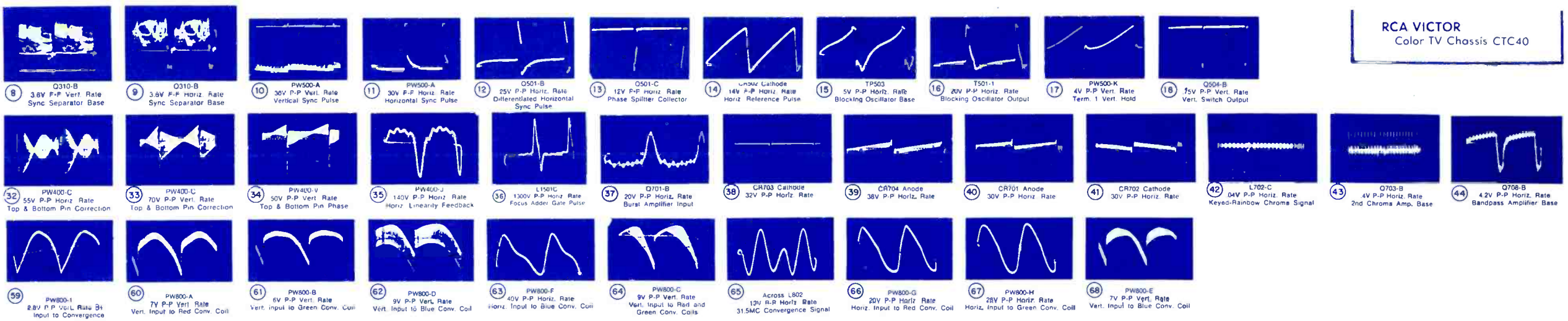
20 TP701  
2nd CHROMA BANDPASS OUTPUT  
HORIZONTAL RATE 5.5V P-P











RESISTANCE VALUES IN OHMS, K=1000,  
CAPACITANCE VALUES IN P.F. AND ABOVE ARE IN P.F.  
LESS THAN 10 ARE IN P.F. UNLESS OTHERWISE  
INDICATED.  
B INDICATES 5% TOLERANCE.  
VOLTAGES ARE MEASURED TO CHASSIS GROUND  
WITH A "VOLTOHMIST" (NO SIGNAL) AND  
SHOULD HOLD WITHIN ±20% AT RATED SUPPLY  
VOLTAGE.  
BB INDICATES 2% TOLERANCE.



**RCA VICTOR**

Color TV Chassis  
CTC28 Series

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

**MODEL AND CHASSIS CROSS REFERENCE**

Model	Name	Chassis	TMA	Tuner	Picture Tube	Remote	Speaker
GJ-733M, W	"DRISCOLL"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-737M, W, S	"CHATFORD"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-741W	"TONSBERG"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-741WR	"TONSBERG"	CTC28B	503A	KRK131C/132JA, KA, LA	25XP22	CRK10A CTP12A-C	2.4" x 6"
GJ-745L, H	"HANCOCK"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-745LR, HR	"HANCOCK"	CTC28B	503A	KRK131C/132JA, KA, LA	25XP22	CRK10A CTP12A-C	2.4" x 6"
GJ-749W, F, Y	"DUMAS"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-753S	"LINARES"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-753SR	"LINARES"	CTC28B	503A	KRK131C/132JA, KA, LA	25XP22	CRK10A CTP12A-C	2.4" x 6"
GJ-795WK	"STOCKHOLM"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-795WRK	"STOCKHOLM"	CTC28B	503A	KRK131C/132JA, KA, LA	25XP22	CRK10A CTP12A-C	2.4" x 6"
GJ-797LK, HK	"BENNINGTON"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-797LRK	"BENNINGTON"	CTC28B	503A	KRK131C/132JA, KA, LA	25XP22	CRK10A CTP12A-C	2.4" x 6"
GJ-799FK, SK	"VINCENNES"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"
GJ-801SK	"GALICIA"	CTC28A	502A	KRK131B/132JA, KA, LA	25XP22		2.4" x 6"

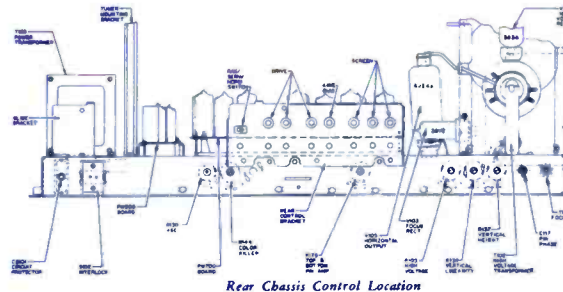
The letter following the third numeral designates the cabinet finish as follows: F—ANTIQUED PROVINCIAL FRUITWOOD, H—HEIRLOOM PINE, L—ANTIQUED COLONIAL MAPLE, M—AUTUMN MAHOGANY, S—ANTIQUED MISSION PECAN, W—NATURAL WALNUT (GJ733W, GJ737W, GJ741W, GJ749W, GJ753W, GJ795WK) ANTIQUED LIGHT WALNUT (GJ749W), Y—ANTIQUED BRUSHED PARCHMENT WHITE. The letter "K" following the model number indicates a custom model.

SYMBOL DESCRIPTION RCA PART NO.

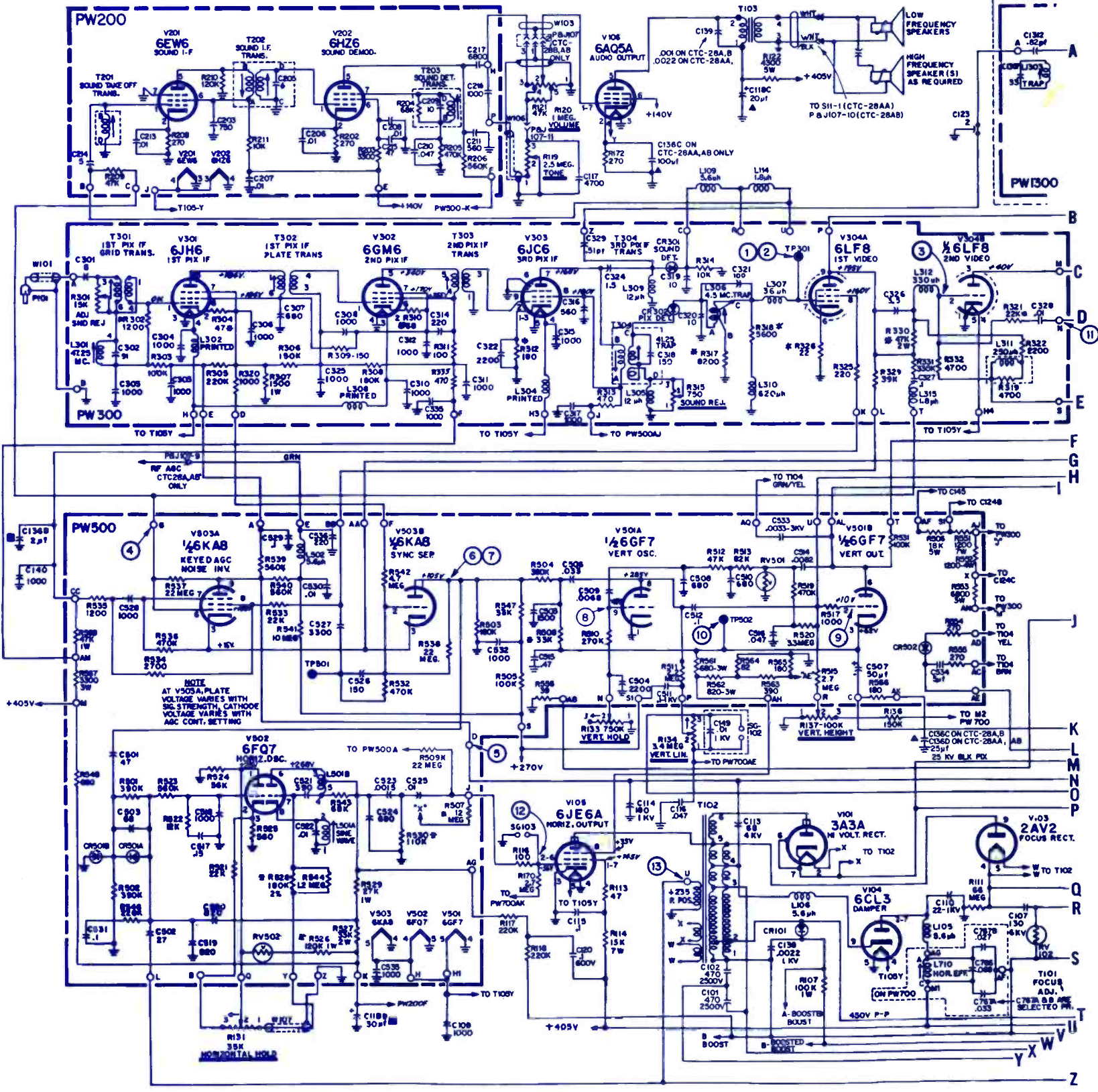
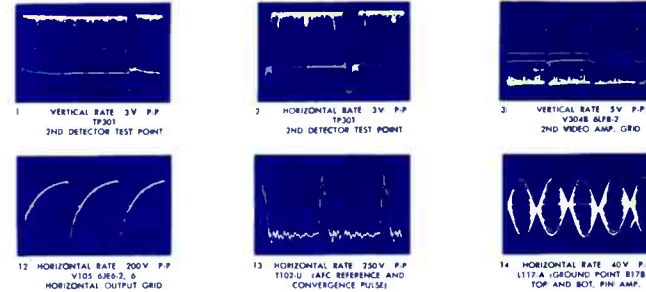
C118—4 section elect	114001
A—80µf 450v	
B—30µf 450v	
C—20µf 450v	
D—40µf 150v	
C124—4 section elect	112827
A—80µf 450v	
B—20µf 250v	
C—50µf 450v	
D—50µf 50v	
C136—3 section elect	115869
A—80µf 450v	
B—25µf 25v	
C—2µf 350v	
C139—1000pf ±10% 3kv cer	120696
C316—560pf ±5% 500v cer N1500	109142
C319—10pf ±0.5pf 500v cer NPO	
C503—68pf ±10% 500v cer NPO	109232
C507—50µf 150v elect NP	109227
C521—390pf ±5% 1.5kv cer N1500	109806
C524—680µf ±5% 500v mica	218468
C533—3300pf ±10% 3kv cer	1120347
C534—5µf 10v elect NP	115868
C709—4pf ±0.5pf 500v cer NPO	105247
C714—330pf ±5% 500v mica	79191
C723—15pf ±10% 500v cer NPO	109316
C724—82pf ±10% 500v cer NPO	105246
C728—200pf ±5% 500v mica	922153
C740—330pf ±5% 500v mica	79191
C759—1000pf ±20% 1kv cer	105778
C767A—0.033µf 600v, 0.027µf 600v paper, matched pair	121576
C767B—0.033µf 600v, 0.027µf 600v paper, matched pair	121576
C805—0.1µf ±10% 100v mylar	119383
C1311—15pf ±5% 500v cer NPO	109316
C8101—breaker-circuit 1.75a	113950
<b>DIODES</b>	
CR101—800 PIV at 2ma	113391
CR201—1N3195	113998
CR301—sound det	112524
CR302—pix det	112524
CR502—1N3194	113998
CR1301—1N60	112524
CR1304—zener	119594
DL101—line-delay	119593
FW101—fuse-wire #26	102792
<b>COILS</b>	
L105—5.6µh	109171
L107—filter	112829
L108—72µh	77842
L110—5.6µh	116643
L114—1.8µh	109248
L116—filter choke	117526
L117—pin phase	114594
L301—47.25MHz trap	115844
L305—12µh	105308
L306—4.5MHz	105295
L307—36µh	101819
L310—620µh	113404
L311—250µh	100298
L312—330µh	113280
L501—horiz frequency	112866
L701—chroma take off	119592
L702—reactance control	112874
L704—620µh	109257
L710—horiz efficiency	114596
L712—82µh	117535
L801—right vert red/grn lines	114597
L802—right red/green horz lines	114598
L1301—45.75MHz trap	119599
L1305—disc 45.75MHz	119601
PW300—circuit-printed deflection (less tubes)	122357
PW700—circuit-printed chroma (less tubes)	122110
Q1301—transistor-2473	116080
Q1302—transistor-3526	119636

RESISTORS: ±10% 1/8w composition unless otherwise noted

R106—1.5M 1w, matched pair	109235
A—1.5M 1w, matched pair	
B—1.5M 1w, matched pair	
R111—66M, 6kv	114651
R114—15K ±5% 7w	121492
R122—4.3K, 5w	112852
R124—680Ω 10w, WW	114631
R127—600Ω 18w, WW	114632
R142—10K, 10w, WW	102241
R151—39K, 4w	105753
R551—1.2K, 7w	109414
R552—1.2K, 4w	112849
R553—6.8K, 3w	105662
R561—680Ω 3w, WW	114628
R562—820Ω 3w, WW	120310
R567—3.3K 3w, WW	114005
R716—1M (matched pair)	112863
A—1M (matched pair)	
B—1M (matched pair)	
RT201—thermistor-120Ω cold	107191
RV101—varistor-175v at 1ma	114707
RV102—varistor-870v at 1ma	112876
RV201—varistor-20v at 67ma	116534
RV502—varistor-110v at 1ma	114862
SG101—capacitor-spark gap, 10,000pf 1kv	117139
R105—control-HV adj.	112842
R119—control-tone	122433
R130—control-AGC	112830
R131—control-horiz hold	122429
R133—control-vert hold	122428
R134—control-vert linearity	114020
R137—control-vert height	122176
R141—control-contrast	122427
R143—control-lim, CTC28A	122431
R143—control-lim, CTC28B	122435
R144—control-color killer	112841
R145—control-color, CTC28B	122434
R145—control-color, CTC28A	122430
R175—control-top and bottom pin amp	122116
R176—control-video peaking	122432
R301—control-sound adj.	116457
R315—control-sound rej	114319
R787—control-red/blue/grn screen	121574
R788—control-red/grn kinescope drive	122114
R798—control-ACC threshold	122768
R801—control-left blue horz lines	120949
R804—control-left vert lines red/grn	109472
R805—control-left red/grn horz lines	106320
R808—control-bottom blue horz lines	105059
R811—control-top red/grn vert lines	109472
R812—control-bottom red/grn horz lines	114623
R813—control-top red/grn horz lines	106320
R814—control-bottom red/grn vert lines	105059
R1312—control-ref adj.	119611
<b>TRANSFORMERS</b>	
T101—focus adj.	113999
T102—HV	115876
T103—audio	119170
T104—vert output	122118
T105—power	115838
T107—top & bottom pin cushion	122119
T108—side pin cushion	122120
T201—1st sound IF	109261
T202—ratio det (includes C205, R202)	112870
T203—quad (includes C209, R204)	106383
T301—1st pix IF	109252
T302—2nd pix IF	113547
T303—3rd pix IF	116458
T304—41.25MHz trap	112871
T701—band pass	114003
T702—burst phase	114004
T703—3.58MHz	119633
T705—video output	122121
Y101—crystal-3.58MHz	105330
RT101—thermistor-temperature compensating 5Ω cold (part of yoke)	114742
VHF tuner assembly, KRK 131 B, C	114741
UHF tuner assembly KRK 132 JA, KA, LA	



Rear Chassis Control Location









**RCA VICTOR**  
TV Chassis  
KCS136ML Series

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

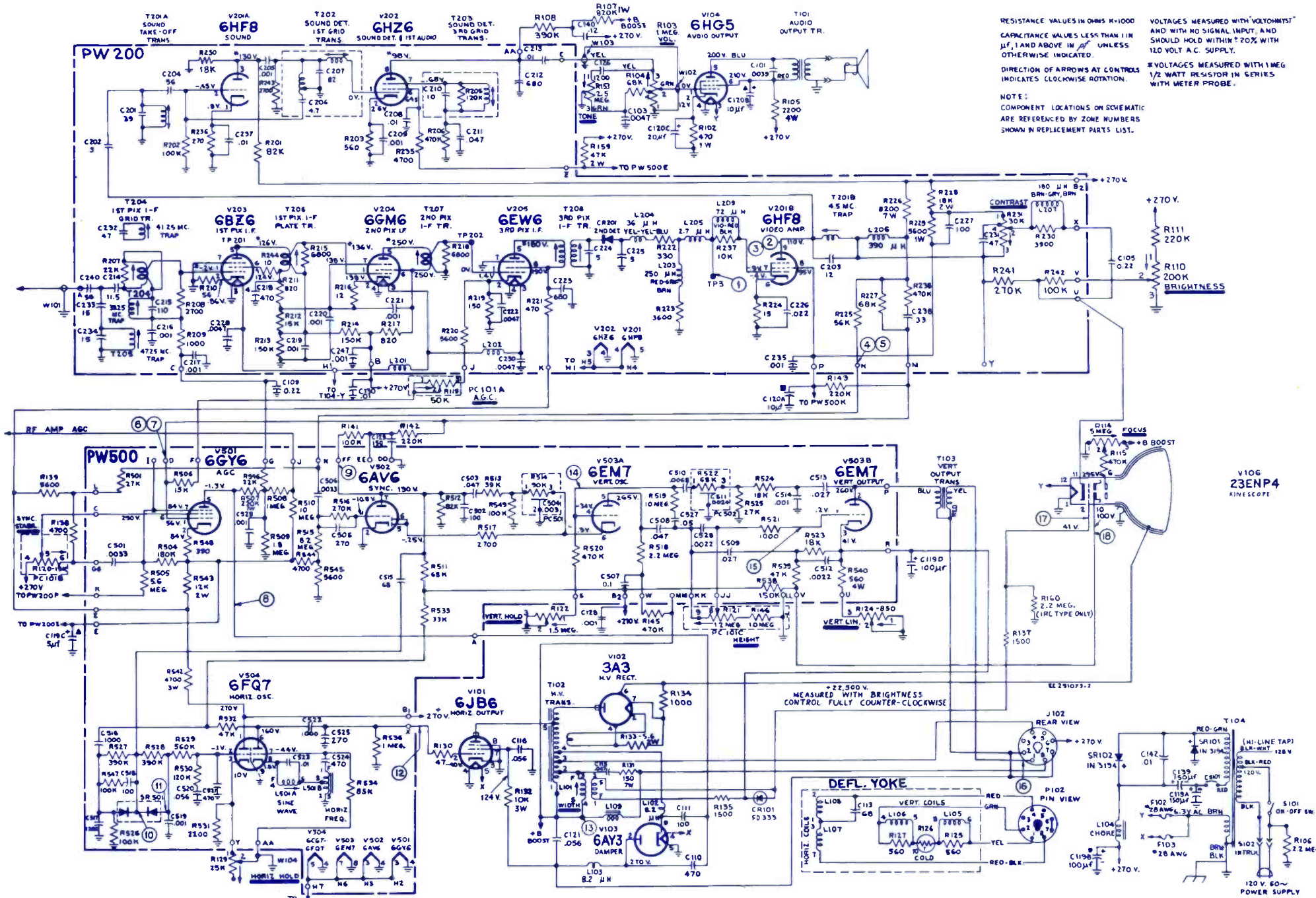
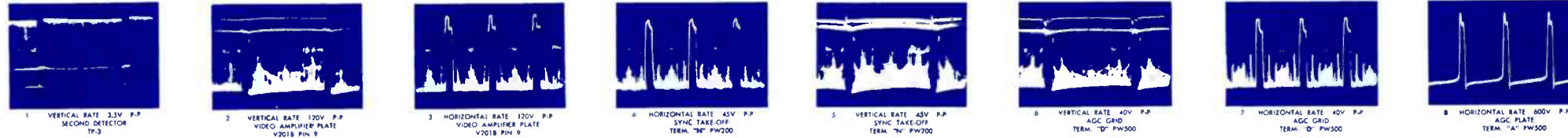
C120 - 3 section elect	109977
A - 10μf, 350v	73960
B - 10μf, 400v	77252
C - 20μf, 25v	73960
C202 - cer-3pf ±1pf, 1kv, N750	104222
C208 - cer-0.01μf ±10% -0%, 500v	105778
C209 - cer-0.001μf ±10% -0%, 500v	105672
C240 - cer-56pf ±5%, 500v, NPD	113950
C514 - cer-0.001μf ±10%, 2kv	116052
C522 - cer-1000pf ±10%, 1kv	112524
C524 - mica-470pf ±5%, 1kv	
C8101 - breaker-circuit	
CR101 - diode-rectifier FD333	
CR201 - diode-crystal 2nd det	
F102 - fuse-0.0126" dia	
F103 - fuse-0.0126" dia	
L101 - coil-width	112511
L102 - coil-RF choke 8.2μh	107385
L104 - reactor-filter choke	116651
L109 - coil-peaking	113953
L202 - reactor-choke	112509
L203 - coil-peaking 250μh	109944

L204 - coil-peaking 36μh	109758
L205 - reactor-RF choke 2.7μh	107463
L206 - coil-peaking 390μh	109945
L207 - coil-peaking 180μh	109946
L209 - coil-peaking 72μh	109943
L501A - coil-horz frequency and sine wave	109947
<b>RESISTORS</b>	
R105 - fixed film-2.2K ±10% 4w	113948
R131 - WW-150Ω ±10%, 7w	113949
R132 - fixed film, 10K ±10% 3w	213756
R160 - 2.2M ±20% 1/2w, IRC only	114928
R210 - 56Ω ±5%, 1/2w	502056
R226 - WW-8.2K ±10% 7w	106975
R542 - fixed film 4.7K ±10% 3w	104835
R543 - 12K ±10%, 2w	522312
R110 - control-bright	118012
R114 - control-focus	109974
R119 - control-AGC (part of PC101A)	
R120 - control-noise stabilizer (part of PC101B)	
R121 - control-height (part of PC101C)	
R122 - control-vert hold	118013
R124 - control-vert linearity	113030

R129 - control-horz hold	118014
R231 - control-contrast	109976
SR101 - rectifier-silicon 1N3194	113998
SR501 - diode-selenium	109474
<b>XFORMER</b>	
T101 - output	109991
T102 - HV	113958
T103 - vert output	109783
T104 - power	113216
T201 - 4.5MHz and sound take-off	109949
T202 - sound det grid (includes C206-C207)	109951
T203 - sound det 3rd grid (includes C210-R205)	109948
T204 - IF pix	109323
T205 - 1st IF grid trap	109322
T206 - 1st IF pix	109071
T207 - 2nd IF pix	109158
T208 - 3rd IF pix	109076
T126 - thermistor-temperature compensating	
12.9251 cold (part of yoke)	107420
yoke-deflection	113045
VHF tuner assy KRK 124R	
UHF tuner assy KRK 120 RL, TL, UL	

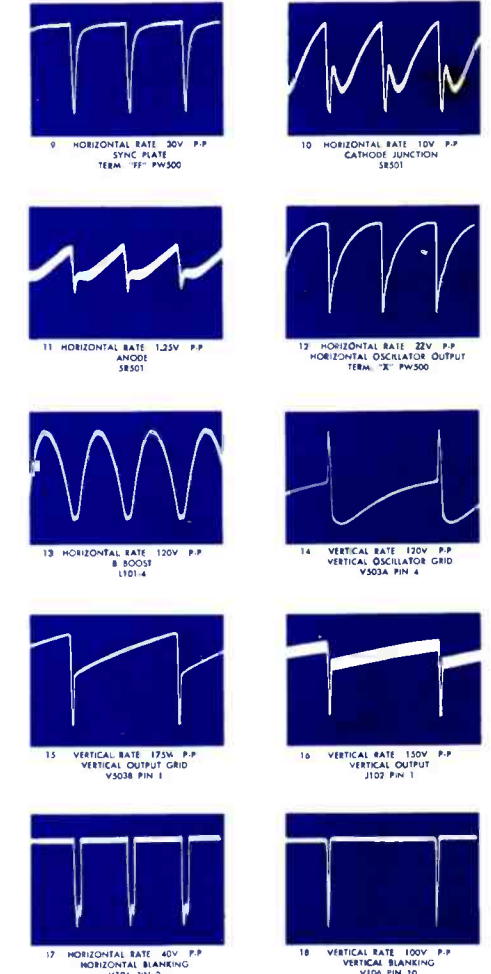
SYMBOL	DESCRIPTION	RCA Part No.
R93	resistor-fixed film, 16K ±10% 3w	113960
R103	resistor-control on-off volume	119482
R153	resistor-control, tone	119483
<b>CAPACITORS</b>		
C101	cer-0.0039μf ±10% 1kv	109060

C110	cer-470pf ±10% 1kv	109383
C111	cer-100pf ±10% 4kv, N1500	114765
C119	4 section elect	112581
A	150μf, 200v	
B	100μf, 350v	
C	5μf, 150v	
D	100μf, 50v	



RESISTANCE VALUES IN OHMS X1000  
CAPACITANCE VALUES LESS THAN 1μf, 1M AND ABOVE IN μf UNLESS OTHERWISE INDICATED.  
DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.  
NOTE: COMPONENT LOCATIONS ON SCHEMATIC ARE REFERENCED BY ZONE NUMBERS SHOWN IN REPLACEMENT PARTS LIST.

VOLTAGES MEASURED WITH "VOLTOHMIST" AND WITH NO SIGNAL INPUT, AND SHOULD HOLD WITHIN ±20% WITH 120 VOLT A.C. SUPPLY.  
\*VOLTAGES MEASURED WITH 1MEG 1/2 WATT RESISTOR IN SERIES WITH METER PROBE.



**RCA TUBE AND TRANSISTOR COMPLEMENT**

Type	KCS136M Chassis	Function
RCA 6BZ6	1st Picture I-F Amplifier	
RCA 6GM6	2nd Picture I-F Amplifier	
RCA 6EW6	3rd Picture I-F Amplifier	
RCA 6HF8	Video Amp. and Sound I-F Amp.	
RCA 6HZ6	Sound Detector and Audio Amplifier	
RCA 6HG5	Audio Output	
RCA 6GY6	AGC	
RCA 6AV6	Sync	
RCA 6EM7	Vertical Oscillator and Vertical Output	
RCA 6CG7/6FQ7	Horizontal Sweep Oscillator and Control	
RCA 6JB6	Horizontal Sweep Output	
RCA 6AY3	Damper	
RCA 3A3	High Voltage Rectifier	
Two RCA type 1N3194 silicon rectifiers are employed for low voltage rectification.		
RCA 23ENP4	Kinescope	
RCA 6CW4	KRK124R VHF Tuner (TMA113A)	R-F Amplifier
RCA 6KZ8		R-F Oscillator and Mixer
KRK120RL, TL, UL UHF Tuner		
Fa S1037 (RL)		UHF Oscillator
RCA 35449 (TL)		UHF Oscillator
TI GM770 (UL)		UHF Oscillator
A 1N82 crystal is used as the UHF mixer.		



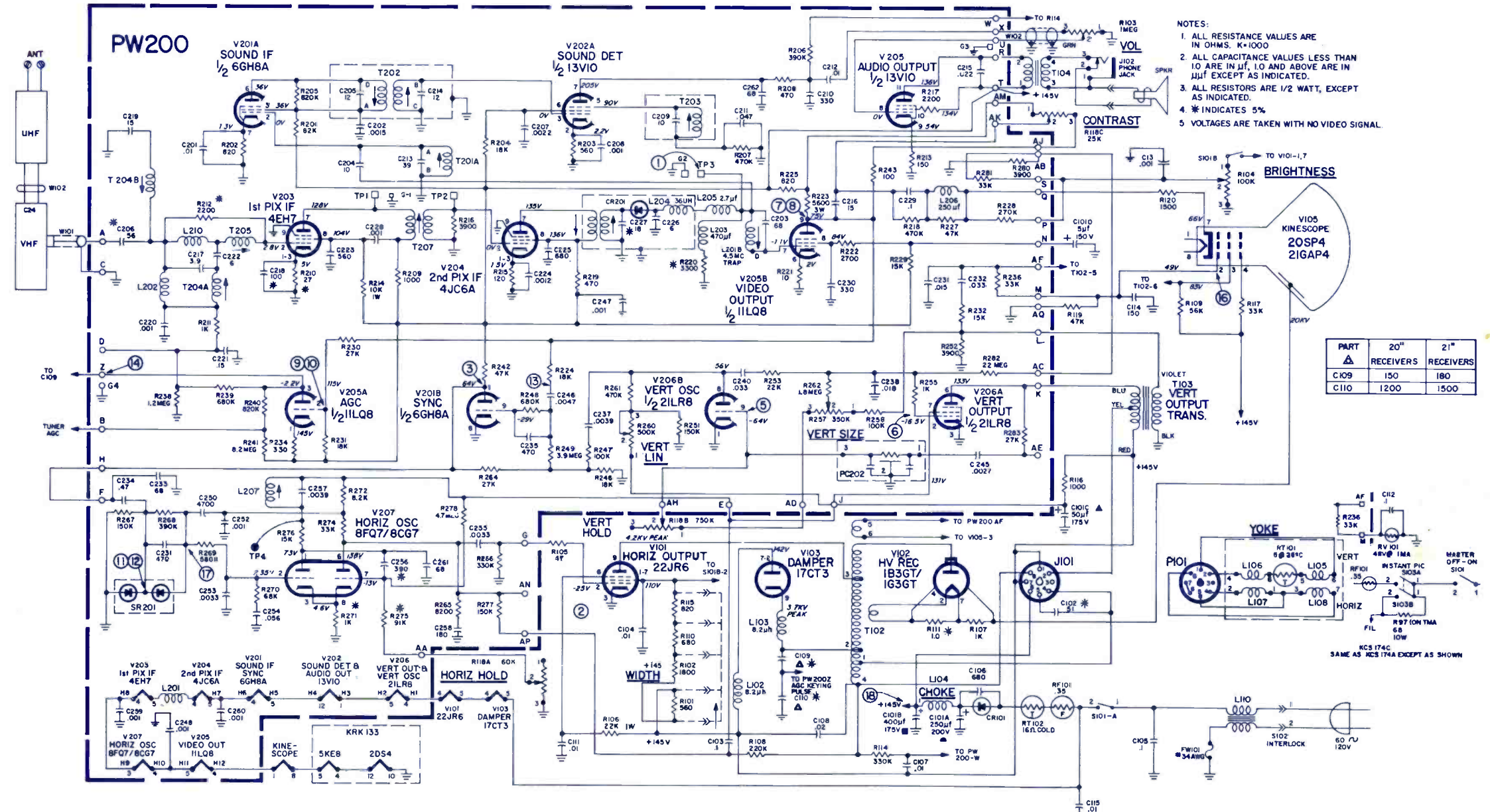
ANTENNA INPUT IMPEDANCE ..... 300 ohms, balanced  
 AUDIO POWER OUTPUT RATING ..... 1.5 Watts (Max.)  
 FOCUS ..... Electrostatic  
 POWER INPUT ..... 120 VAC 60 Cycle  
 POWER CONSUMPTION ..... 155 Watts

TELEVISION R F FREQUENCY RANGE  
 All 12 VHF Channels ..... 54 mc. to 88 mc., 174 mc. to 216 mc.  
 All 70 UHF Channels ..... 470 mc. to 890 mc.  
 VIDEO RESPONSE ..... To 3.2 mc.  
 INTERMEDIATE FREQUENCIES  
 Picture I F Carrier Frequency ..... 45.75 mc.  
 Sound I F Carrier Frequency ..... 41.25 mc.

**RCA VICTOR**  
 TV Chassis KCS174  
 Series

SYMBOL	DESCRIPTION	RCA VICTOR PART NO.
	VHF tuner assembly	KRK 133AA, BB, BA
	UHF tuner assembly	KRK 122AC, BC
	C101 - 4 section elect.	114845
	C101A - 250µf 100v	114845
	C101B - 400µf 175v	114845
	C101C - 50µf 175v	114845
	C101D - 5µf 150v	114845
	C102 - 51pf 5% 2kv N1500 cer.	116010
	C109 - 150pf 5% 4kv N1500 cer KCS 174A-C	124269
	C109 - 180pf 5% 4kv N1500 cer KCS 174B	124268
	C226 - 6pf ±.5pf 500v NPO cer	121225
	C256 - 390pf 5% 500v N750 cer	121227
	CPR101 - circuit printed	109956
	CPR102 - circuit printed	109956
	CR101 - diode 400PIV 500mo	11399B
	CR201 - diode 1N60	112524
	L103 - B.2µh	1073B5
	L104 - choke	124461
	L110 - line choke	114293
	L202 - AGC	114315
	L203 - 470µh	124271
	L204 - 36µh	116056
	L205 - 2.7µh	107463
	L206 - 250µh	109944
	L207 - stabilizer	114486

L210 - RF	114314
PW200 - circuit printed pix defl.	124593
R118 - control vert hold contrast	
horiz hold KCS 1/4 1/2 A - C	124278
R118 - control vert hold contrast horiz hold KCS 174B	124279
R210 - 27Ω 5% 1/2w film	239444
R212 - 2.2K 5% 1/2w film	228712
R220 - 3K 5% 1/2w film	227097
R223 - 5.6K 10% 3w film	104180
R257 - control vert size	121223
R260 - control vert lin	121944
R271 - 1K 5% 1/2w film	224254
R275 - 91K 5% 1/2w film	230848
RF101 - fuse .35Ω 1.1o	124263
RT102 - thermistor 16Ω cold	114480
RV101 - varistor 48v 1ma KCS 174C	118506
T102 - horiz output	124462
T103 - vert output	124274
T104 - audio output	124275
T201 - 4.5MHz	114489
T202 - sound IF	118411
T203 - quod	118410
T204 - trap	114313
T205 - IF grid	118696
T207 - video IF	124276
T208 - 2nd det	121779
RT101 - thermistor temp camp	118375
yoke deflection AL 218, A1 242	124245
yoke deflection A1 306	125226



NOTES:  
 1. ALL RESISTANCE VALUES ARE IN OHMS, K=1000  
 2. ALL CAPACITANCE VALUES LESS THAN 10 ARE IN µf, 1.0 AND ABOVE ARE IN µf EXCEPT AS INDICATED.  
 3. ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.  
 4. \* INDICATES 5%  
 5. VOLTAGES ARE TAKEN WITH NO VIDEO SIGNAL.

PART	20" RECEIVERS	21" RECEIVERS
C109	150	160
C110	1200	1500



**RCA VICTOR**  
TV Chassis KCS168  
Series

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**



① TP-3  
SECOND DETECTOR  
VERTICAL RATE 2.8V P-P



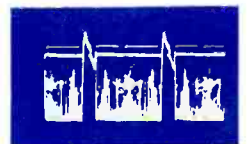
② V205 PIN 9  
VIDEO OUTPUT PLATE  
VERTICAL RATE 70V P-P



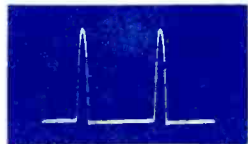
③ C246 & C235 JUNCTION  
ZONE 2B, PW-200  
VERTICAL RATE 70V P-P



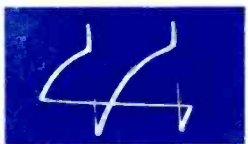
④ V201 PIN 1  
SYNC PLATE  
HORIZONTAL RATE 48V P-P



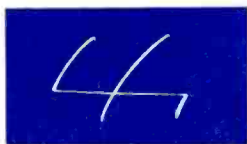
⑤ V205 PIN 2  
AGC GRID  
HORIZONTAL RATE 28V P-P



⑥ V205 PIN 3  
AGC PLATE  
HORIZONTAL RATE 350V P-P



⑦ V206 PIN 9  
VERTICAL OSCILLATOR GRID  
VERTICAL RATE 150V P-P



⑧ V206 PIN 2  
VERTICAL OUTPUT GRID  
VERTICAL RATE 28V P-P



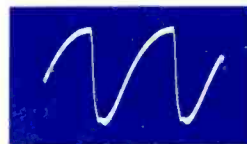
⑨ PW-200, TERMINAL "L"  
VERTICAL OUTPUT TRANSFORMER  
VERTICAL RATE 350V P-P



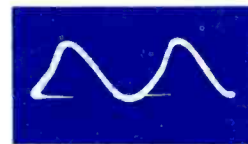
⑩ V105 PIN 2  
PICTURE TUBE GRID  
VERTICAL RATE 62V P-P



⑪ SR201 CATHODE JUNCTION  
HORIZONTAL PHASE DETECTOR  
HORIZONTAL RATE 9V P-P



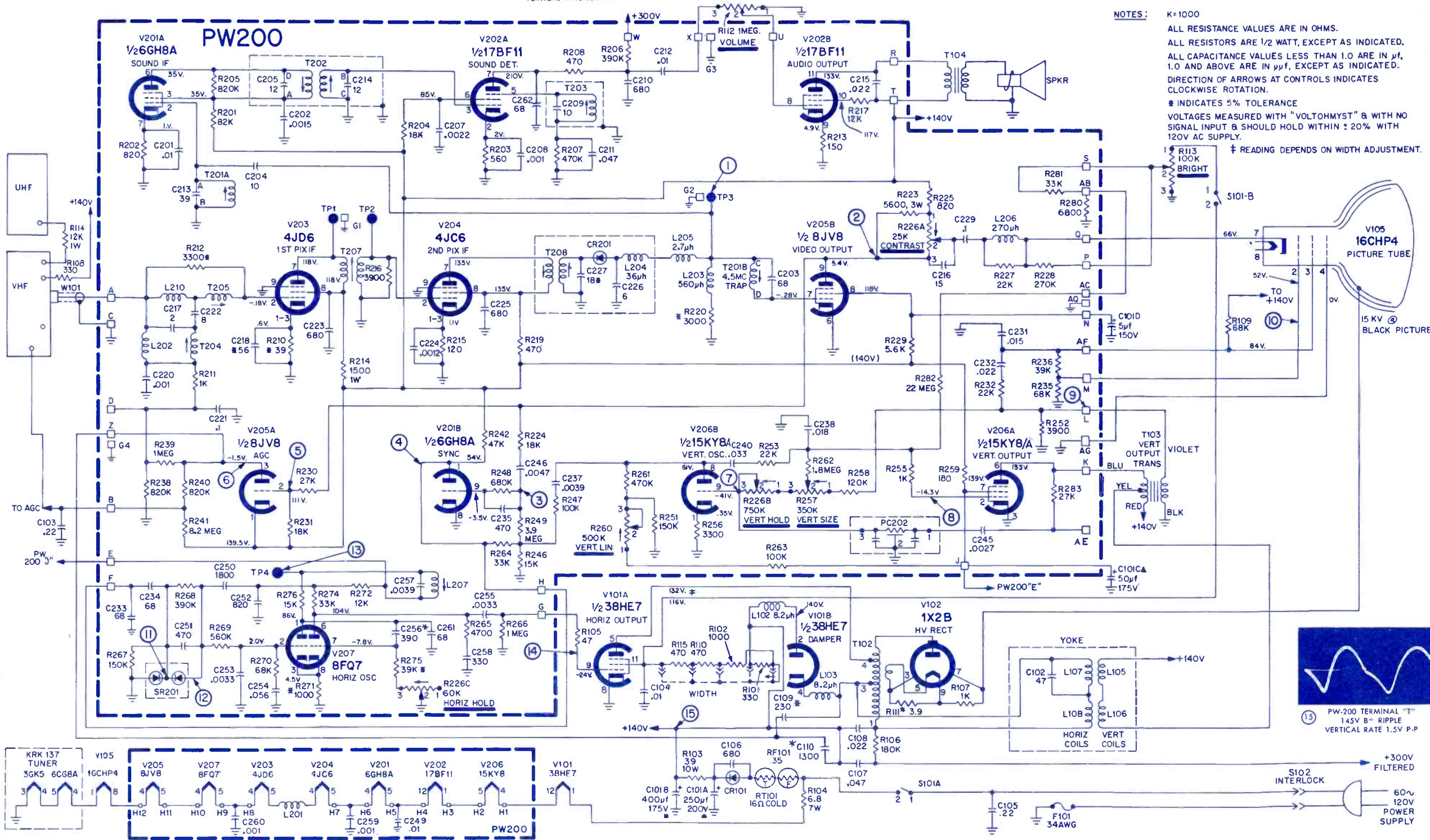
⑫ SR201 ANODE  
HORIZONTAL PHASE DETECTOR  
HORIZONTAL RATE 9V P-P



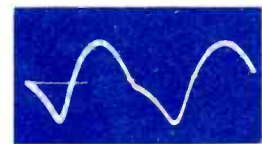
⑬ TP-4  
HORIZONTAL SINE WAVE  
HORIZONTAL RATE 11V P-P



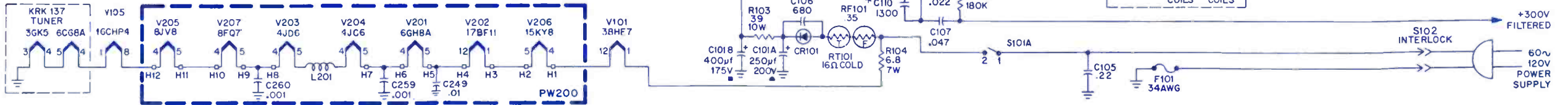
⑭ V101 PIN 9  
HORIZONTAL OUTPUT GRID  
HORIZONTAL RATE 85V P-P



**NOTES:**  
K=1000  
ALL RESISTANCE VALUES ARE IN OHMS.  
ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.  
ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN  $\mu$ F,  
1.0 AND ABOVE ARE IN  $\mu$ F, EXCEPT AS INDICATED.  
DIRECTION OF ARROWS AT CONTROLS INDICATES  
CLOCKWISE ROTATION.  
\* INDICATES 5% TOLERANCE  
VOLTAGES MEASURED WITH "VOLTOHYMST" & WITH NO  
SIGNAL INPUT & SHOULD HOLD WITHIN  $\pm$  20% WITH  
120V AC SUPPLY.  
† READING DEPENDS ON WIDTH ADJUSTMENT.



⑮ PW-200 TERMINAL "T"  
1.45V B- RIPPLE  
VERTICAL RATE 1.5V P-P





V101	12DFP4	Picture Tube
V102	1X2B	High Voltage Rectifier
V201	12FX5	Audio Output
V301	17JZ8	Vertical Osc. and Output
V502	33GY7	Horizontal Output and Damper
V504	8FQ7	Horizontal Osc. and Control
Q201	3550 Transistor	Sound I F Amp.
Q202	3557 Transistor	Audio Driver
Q203	3572 Transistor	I F AGC Amplifier
Q204	3568 Transistor	1st Video I F
Q205	3568 Transistor	2nd Video I F
Q206	3579 Transistor	Video Driver
Q207	2474 Transistor	Video Output
Q208	3569 Transistor	AGC Amplifier
Q209	3570 Transistor	AGC Gate

Q501	3571 Transistor	Sync Amplifier
Q502	3577 Transistor	Sync Driver
CR201A & B	Matched Diodes	Audio Detector
SR601	Common Cathode Diodes	Horizontal AFO
VR601	ZA12 Zener Diode	12 Volt Voltage Regulator
CR601	Rectifier Diode	Low Voltage Rectifier
CR602	Rectifier Diode	Filament Voltage Rectifier

**KRK 146A VHF Tuner**

Q1	SE5020 Transistor	R F Amplifier
Q2	SE5025 Transistor	Mixer
Q3	SE1010 Transistor	R F Oscillator

**KRK 147A VHF Tuner**

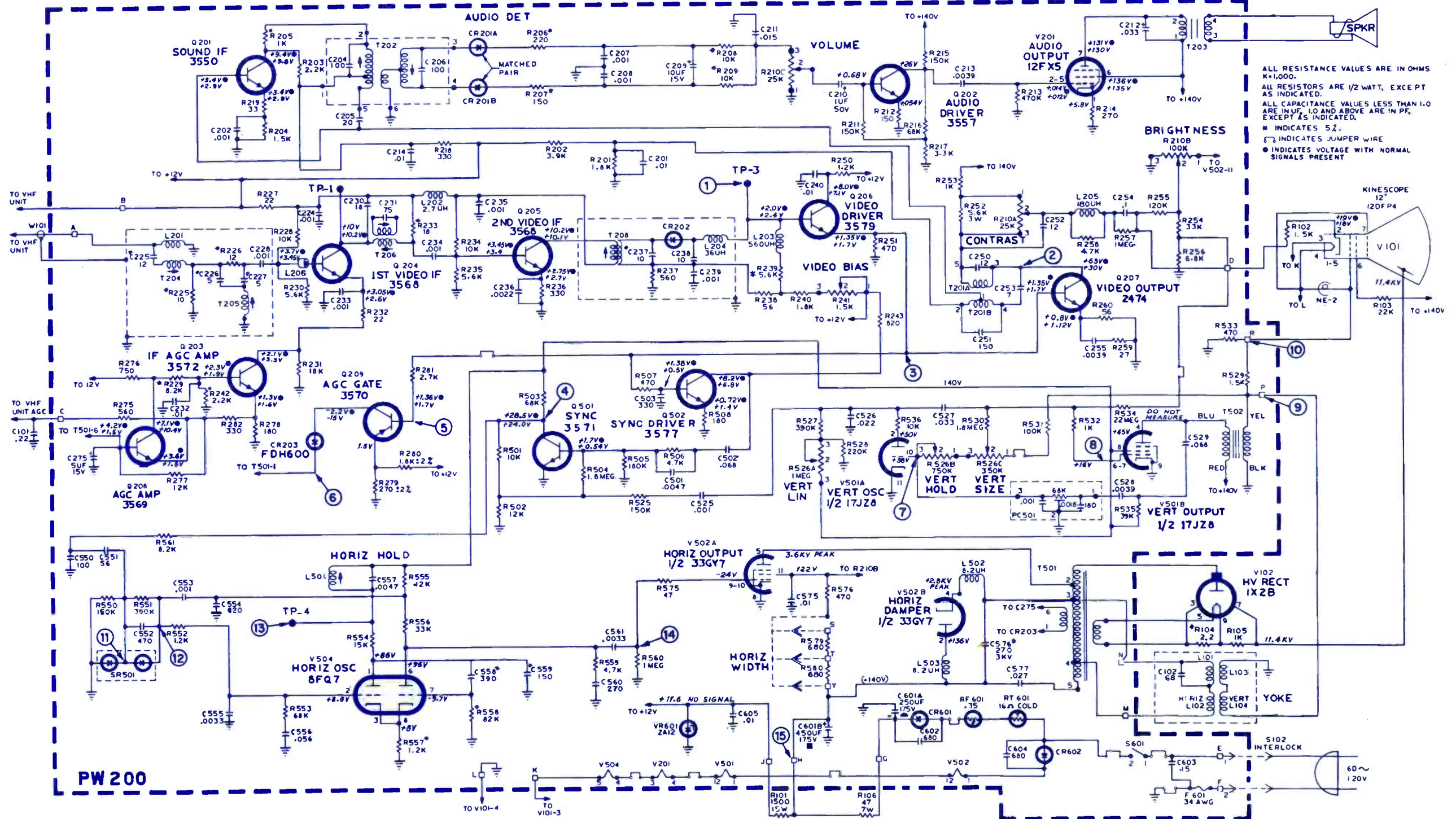
Q1	25703-001 Transistor	R F Oscillator
D-1	(see parts list)	Mixer Diode

SYMBOL	DESCRIPTION	PART NO.
	VHF tuner assembly	KRK 146A
	UHF tuner assembly	KRK 147A
C227	5pf ± 5pf 500v N150 cer	116026
C253	7pf ± 5pf 500v NPO cer	104177
C558	390 pf 5% 500v N750 eep	121227
C576	270pf 5% 300v N1500 cer	121224
C601A	200µf 175v	125989
C601B	400µf 175v	125989
C601C	50µf 175v	125989
CR201	matched pair	116050
CR202	1N60	112524
CR203	50PIV 223mo	119597
CR601	200PIV 1a	125127
CR602	200PIV 1a	125127
L201	RF	114314
L202	2.7µh	107463
L203	560µh	114488
L204	36µh	116056
L205	180µf	109946
L206	ferrite	125113
L501	horiz hold	125129
L502	8.2µh	107385
PC501	circuit printed components	114916
PW200	circuit less hv & vert trans C601	125112
Q202	audio driver	125135
Q201	sound IF	125137



Q203	IF AGC	125140
Q204	1st IF	125144
Q206	video driver	125138
Q207	video output	116081
Q208	AGC amp	125143
Q209	AGC gate	125142
Q501	sync	125141
Q502	sync driver	125139
R101	1.5K 15w	125120
R106	47K 5% 7w	125119
R210	control contrast bright vol	125123
R229	8.2K 5%	227099
R241	control video bias	122786
R242	2.2K 5%	228712
R252	5.6K 3w	104180

R279	270Ω 2%	125145
R280	1 K 2%	269513
R526	control vert lin	125122
R526	vert size vert hold	125122
T201	audio trap band pass	125114
T202	ratio detector	125115
T203	audio output	125116
T204	IF input	113097
T206	1st pix IF	116115
T208	2nd pix IF	116116
T501	horiz output	125109
T502	vert output	125117
VR601	zener 12v 1w	125126
	lamp neon NE 2	122608
	yoke deflection	125110



ALL RESISTANCE VALUES ARE IN OHMS  
K=1,000.  
ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.  
ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN UF, 1.0 AND ABOVE ARE IN PF, EXCEPT AS INDICATED.  
\* INDICATES 5%.  
[ ] INDICATES JUMPER WIRE  
⊙ INDICATES VOLTAGE WITH NORMAL SIGNALS PRESENT



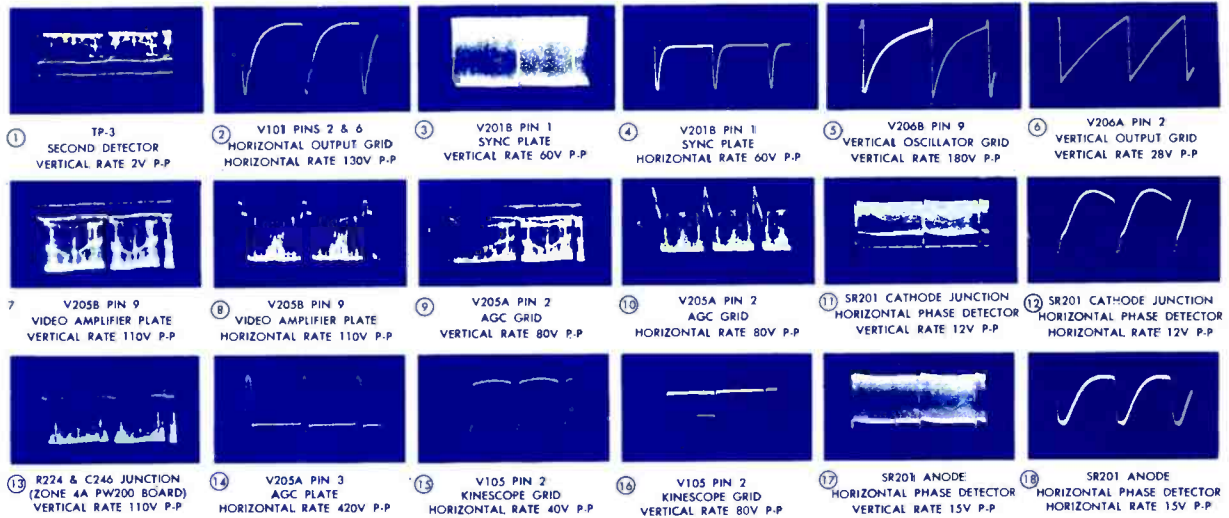
**RCA VICTOR**

TV Chassis  
KCS175 Series

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

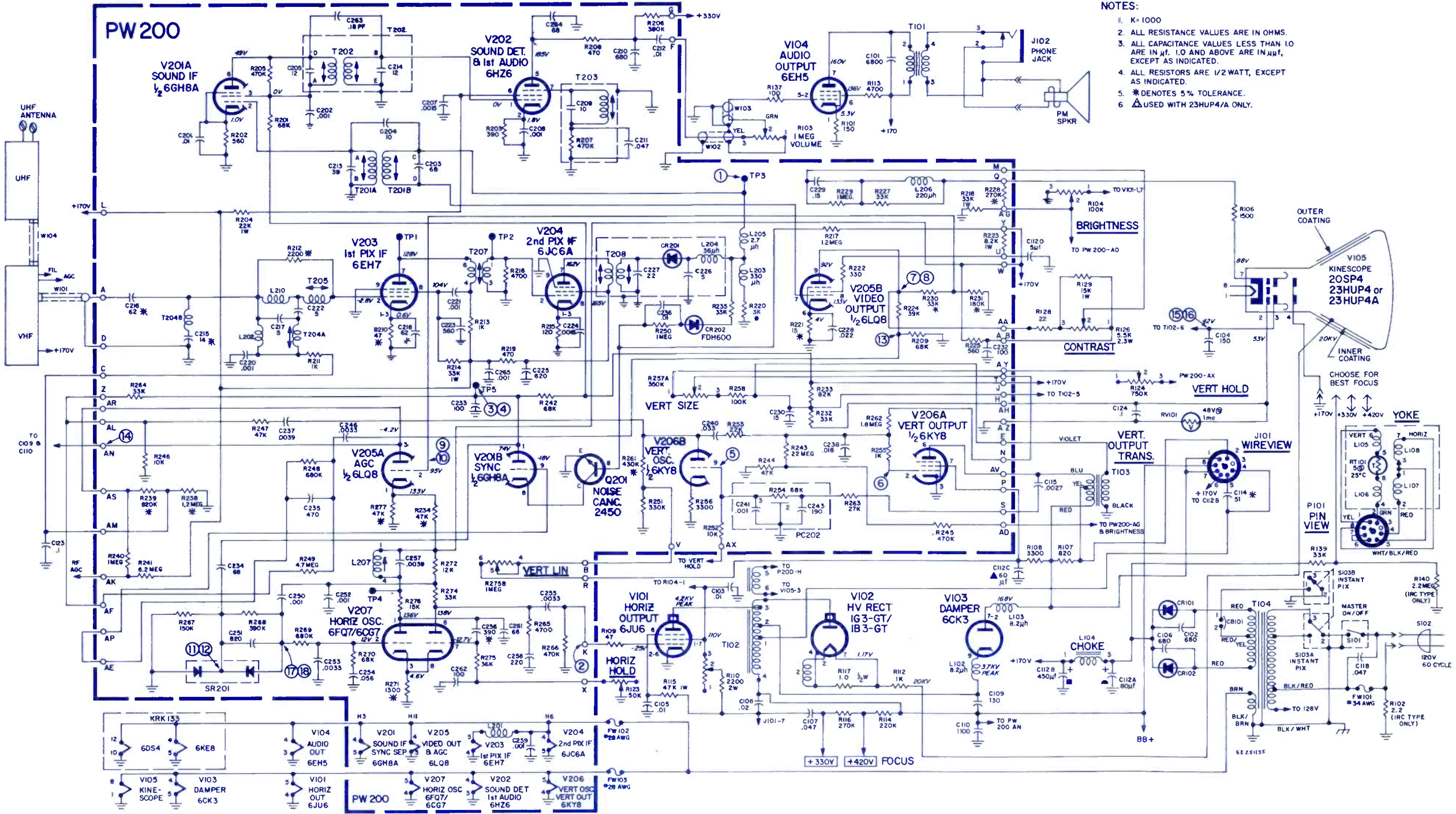
SYMBOLS	DESCRIPTION	RCA VICTOR PART NO.
C112	4 section elect	118401
C112A	80μf 200v	118401
C112B	450μf 200v	118401
C112C	60μf 175v	118401
C112D	5μf 175v	118401
C114	56pf 5% 2000v N1500 cer	119339
C115	0.0027μf 10% 1000v paper	124472
C222	5pf ± .5pf 500v NPO cer	104178
C256	390pf 5% 500v N750 cer	121227
CB101	breaker circuit	118400
CR102	diode 400 PIV 500ma	113998
L102	8.2 μh	107385
L104	choke	115426
L203	330 μh	118710
L204	36 μh	116056
L206	220 μh	115438

L207	2.7 μh	114486
L210	RF	114314
Q201	transistor 2450	116079
R111	control width	118704
R123	control horiz hold	118724
R124	control vert hold	118405
R126	control contrast	123796
R257	control vert size vert lin	118408
T101	audio output xformer	118409
T102	HV xformer	124463
T103	vert output xformer	118403
T104	power	124460
T201	4.5MHz xformer	114489
T202	sound IF xformer	118411
T203	quad xformer	118410
T207	1st pix IF xformer	109158
T208	2nd pix IF xformer	121779
RV101	varistor 48v 1ma	118506
	yoke deflection	124245

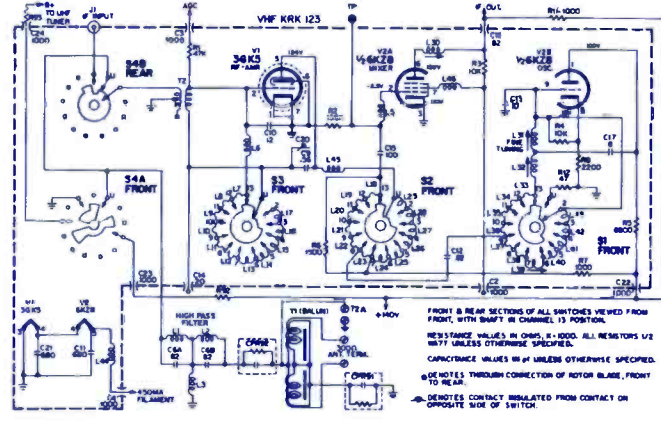


**KCS175 CHASSIS VOLTAGE WAVEFORMS**

- NOTES:**
1. K=1000
  2. ALL RESISTANCE VALUES ARE IN OHMS.
  3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN μf. 1.0 AND ABOVE ARE IN μf., EXCEPT AS INDICATED.
  4. ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.
  5. \* DENOTES 5% TOLERANCE.
  6. Δ USED WITH 23HUP4/A ONLY.





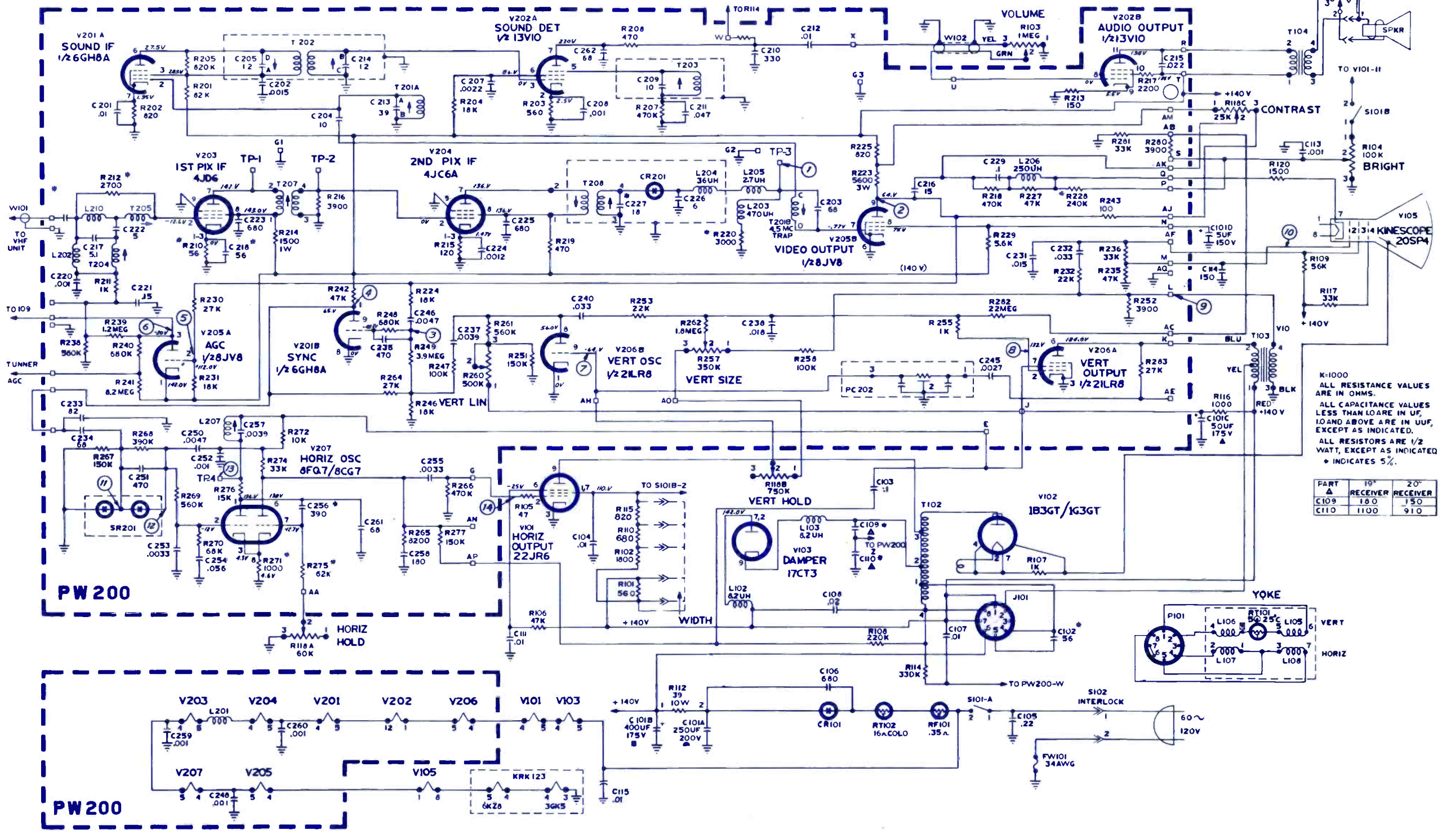


R112 - 391Ω 10w	124272
R118 - control contrast vert hold horiz hold KC5171A	124278
R118 - control vert hold contrast horiz hold KC5171B	124279
R210 - 56Ω 5% 1/2w film	228605
R212 - 2.7K 5% 1/2w film	239935
R220 - 3K 5% 1/2w film	227097
R223 - 5.6K 3w	104160
R228 - 240K 3% 1/2w film	124273
R257 - control vert size	121223
R260 - control vert lin	121944
R271 - 1K 5% 1/2w film	224254
R275 - 56K 5% 1/2w film	225939
RF101 - fuse .35A 1.1o	124263
RT102 - thermistor 16Ω cold	114480
T102 - horiz output	124277
T103 - vert output	124274
T104 - audio output	124275
T201 - 4.5MHz	114489
T202 - sound IF	118411
T203 - quod	118410
T204 - 47.25MHz trap	113097
T205 - IF	113097
T207 - IF	124276
T208 - 2nd detector	121779
thermistor temp comp	118375
deflection yoke AL156H AL160W	124256
deflection yoke AL230BK WK	124337

SYMBOL	DESCRIPTION	RCA VICTOR PART NO.
	UHF tuner Assembly	KRK 122DC
	VHF tuner Assembly	KRK 123D
	C101 - 4 section elect	114845
	C101A - 250μf 200v	114845
	C101B - 400μf 175v	114845
	C101C - 50μf 175v	114845

C101D - 5μf 150v	114845
C109 - 150pf 5% 4kv N1500 cer KC5171A	124269
C109 - 180pf 5% 4kv N1500 cer KC5171B	124268
C226 - 6pf ± .5pf 500v NPO cer	121225
C256 - 390pf 5% 500v N750 cer	121227
CPR101 - capristor 470pf 2.2M	109956
CPR102 - capristor 470pf 2.2M	109956
L102 - 8.2μh	107385
L202 - AGC	114315
L203 - 470μh	124271
L204 - 36μh	116056
L206 - 250μh	109944
L207 - stabilizer	114846

**KRK123D/122DC  
TUNER SCHEMATIC  
DIAGRAM**



K-1000  
ALL RESISTANCE VALUES  
ARE IN OHMS.  
ALL CAPACITANCE VALUES  
LESS THAN 100 ARE IN UF,  
EXCEPT AS INDICATED.  
ALL RESISTORS ARE 1/2  
WATT, EXCEPT AS INDICATED  
\* INDICATES 5%.

PART	19"	20"
Δ	RECEIVER	RECEIVER
C109	180	150
C110	1100	910



**TUBE AND SOLID STATE COMPONENT COMPLEMENT**

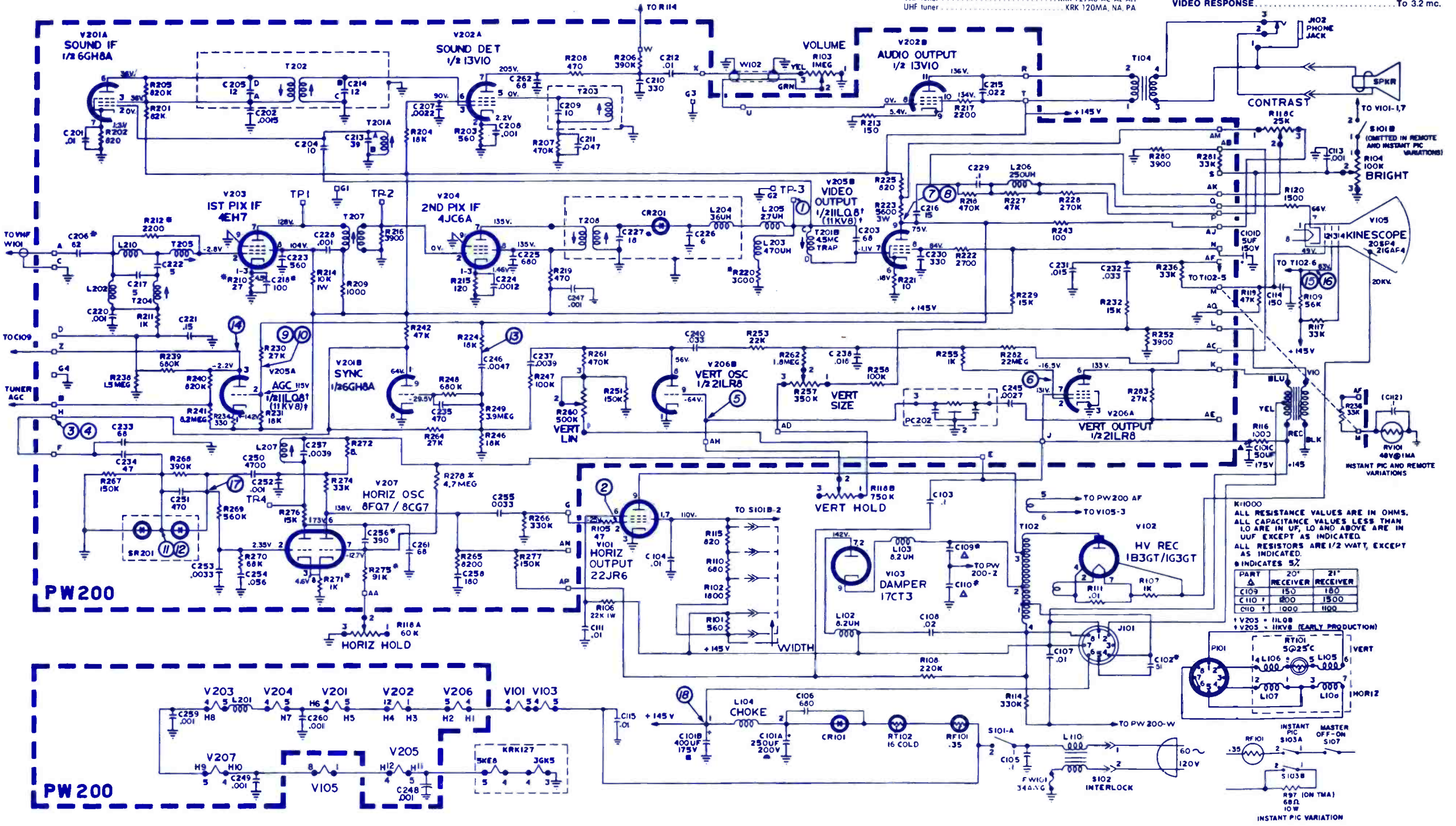
Symbol No.	Type	Function	Symbol No.	Type	Function
CR101	1N431A	Low Voltage Rectifier	Q1	GM770 (KRK120PA)	UHF Oscillator
CR201	Crystal Diode	Picture Zener Detector	Q1	S1019/S1044 (KRK120MP)	UHF Oscillator
V101	22JRE	Horizontal Output	Q1	S2020 (KRK120XP)	UHF Oscillator
V102	1TCT3	High Voltage Rectifier			
V103	1TCT3	Damper			
V105	205PA or 21GAP4	Picture Tube	CR1	1N42AG	UHF Mixer
V201	6X4BA	Sound IF and Sync Sep	Q1	35449 (KRK122AC)	UHF Oscillator
V202	12Y10	Sound Detector and Audio Out	Q1	GM770 (KRK122BC)	UHF Oscillator
V203	4EH7	1st Picture IF	Q1	S1019/S1044 (KRK122DC)	UHF Oscillator
V204	4JG6A	2nd Picture IF			
V205	11K108 or 11KV8	AGC and Video			
V206	21L8R	Vertical Oscillator			
V207	8FQ7	Horizontal Oscillator and Control	CR1101	(See parts list)	Power Rectifier
			CR1102	FD222	18 V. Supply Rectifier
			Q001	2N2813	1st Amplifier
			Q002	2N2814	2nd Amplifier
			Q003	2N2814	3rd Amplifier
			Q004	2N2814	Driver Amplifier
			Q1181	2N408	Channel Relay Keyer
			Q1192	2N408	Volume-Down Relay Keyer
			Q1103	2N408	Volume-Up Relay Keyer
V1	30K5	R.F. Amplifier			
V2	5K6E	R.F. Oscillator and Mixer			
CR1	1N42AG	UHF Mixer			
Q1	35449 (KRK120NA)	UHF Oscillator			
Q1	S1027 (KRK120MA)	UHF Oscillator			

SYMBOL	DESCRIPTION	RCA VICTOR PART NO.
C101	4 section elect	114845
C101A	250µf 200v	114845
C101B	400µf 175v	114845
C101C	50µf 175v	114845
C101D	5µf 150v	114845
C109	170pf 5% 4kv N1500 cer KCS 173H	124465
C227	18pf 5% 500v N150 cer	116028
CR101	diode 400PIV 500ma	113998
CR101	— circuit printed	109956
CR102	— circuit printed	109956
CR103	— circuit printed KCS 173H	109956
L103	8.2µh	107385
L104	— choke	124461
L110	— line choke	114293
L202	— AGC	114315
L203	47.0µh	124271
L204	36µh	116056
L205	2.7µh	107463
L206	250µh	109944
L207	— horiz freq	114486
PW200	— circuit printed sound video	124478

R118	— control vert hold contrast horiz hold KCS 173B, D, E	124278
R118	— control contrast vert hold horiz hold KCS 173H	124279
R210	— 27K 5% 1/2w film	239444
R212	— 2.2K 5% 1/2w film	228712
R220	— 3K 5% 1/2w film	227097
R223	— 5.6K 3w	104180
R257	— control vert size	121223
R260	— control vert lin	121944
R271	— 910Ω 5% 1/2w film	228914
R275	— 68K 5% 1/2w film	224257
RF101	— fuse .35Ω 1.0	124263
RT102	— thermistor 1612 cold	114480
RV101	— varistor 250v of 1mo KCS 173D, E	118506
T102	— horiz output	124462
T103	— vert output	124274
T104	— audio output	124275
T201	— 4.5MHz	114489
T202	— sound IF	118411
T203	— quad	118410
T204	— 47.25MHz	113097
T205	— 1st video IF grid	113097
T207	— video IF	124276
T208	— 2nd detector	121779
	yoke deflection AL312	125226
	yoke deflection	124245
	VHF tuner	KRK 127AB-AC-AE-AH
	UHF tuner	KRK 120MA, NA, PA

**ELECTRICAL SPECIFICATIONS**

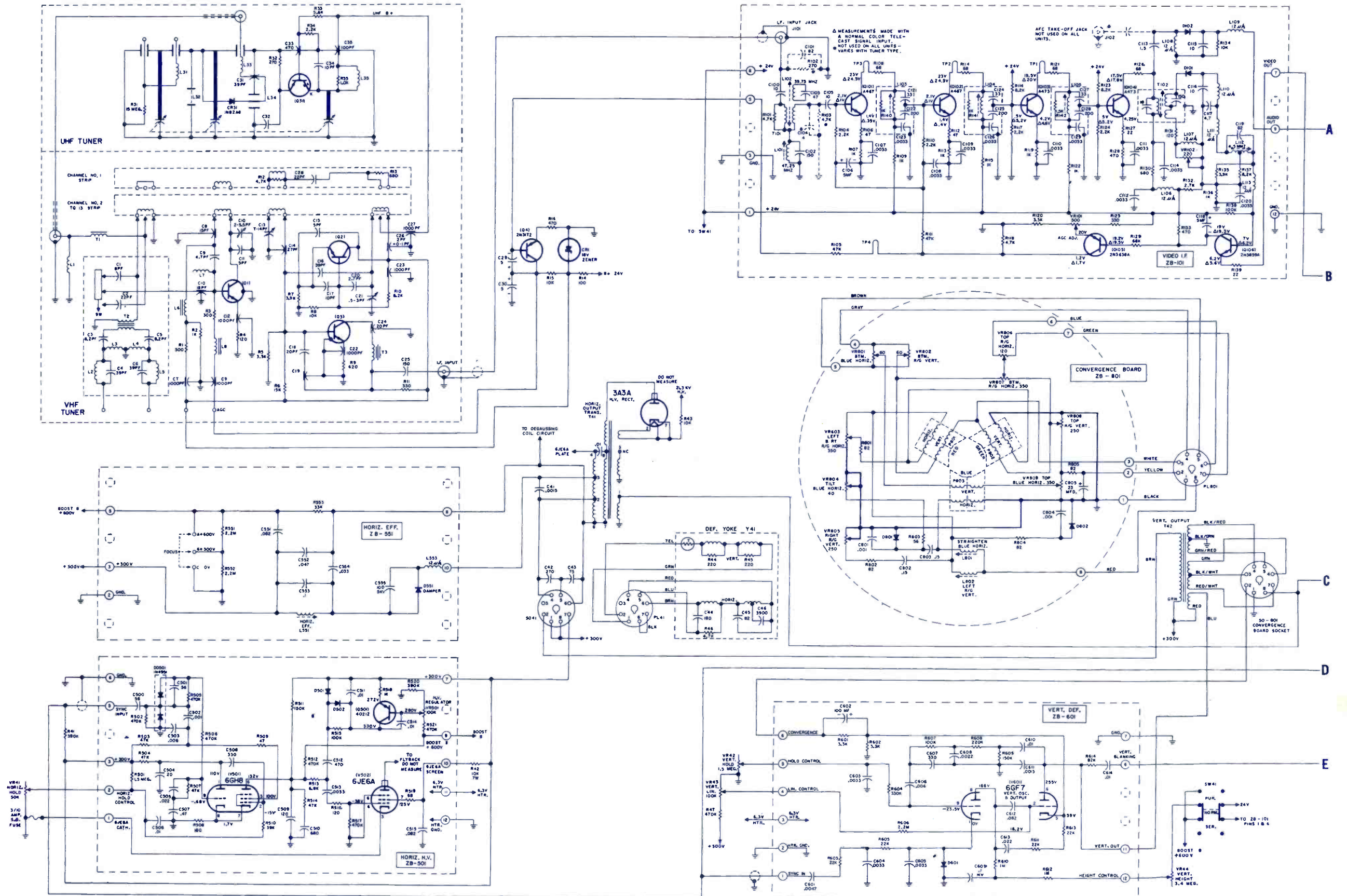
<b>ANTENNA INPUT IMPEDANCE</b>	75 ohms unbalanced 300 ohms balanced
<b>AUDIO POWER OUTPUT RATING</b>	1.5 watts maximum
<b>FOCUS</b>	Electrostatic, Fixed Focus
<b>INTERMEDIATE FREQUENCIES</b>	Picture IF Carrier Frequency..... 45.75 mc. Sound IF Carrier Frequency..... 41.25 mc.
<b>POWER INPUT</b>	120 Volts AC, 60 Cycle
<b>POWER RATING</b>	140 watts Manual 160 watts Remote
<b>SWEEP DEFLECTION</b>	Magnetic
<b>TELEVISION R F FREQUENCY RANGE</b>	Any of 12 VHF Channels... 54 mc. to 88 mc., 174 mc. to 216 mc. Any of 70 UHF Channels... 470 mc. to 890 mc.
<b>VIDEO RESPONSE</b>	To 3.2 mc.

















# SILVERTONE

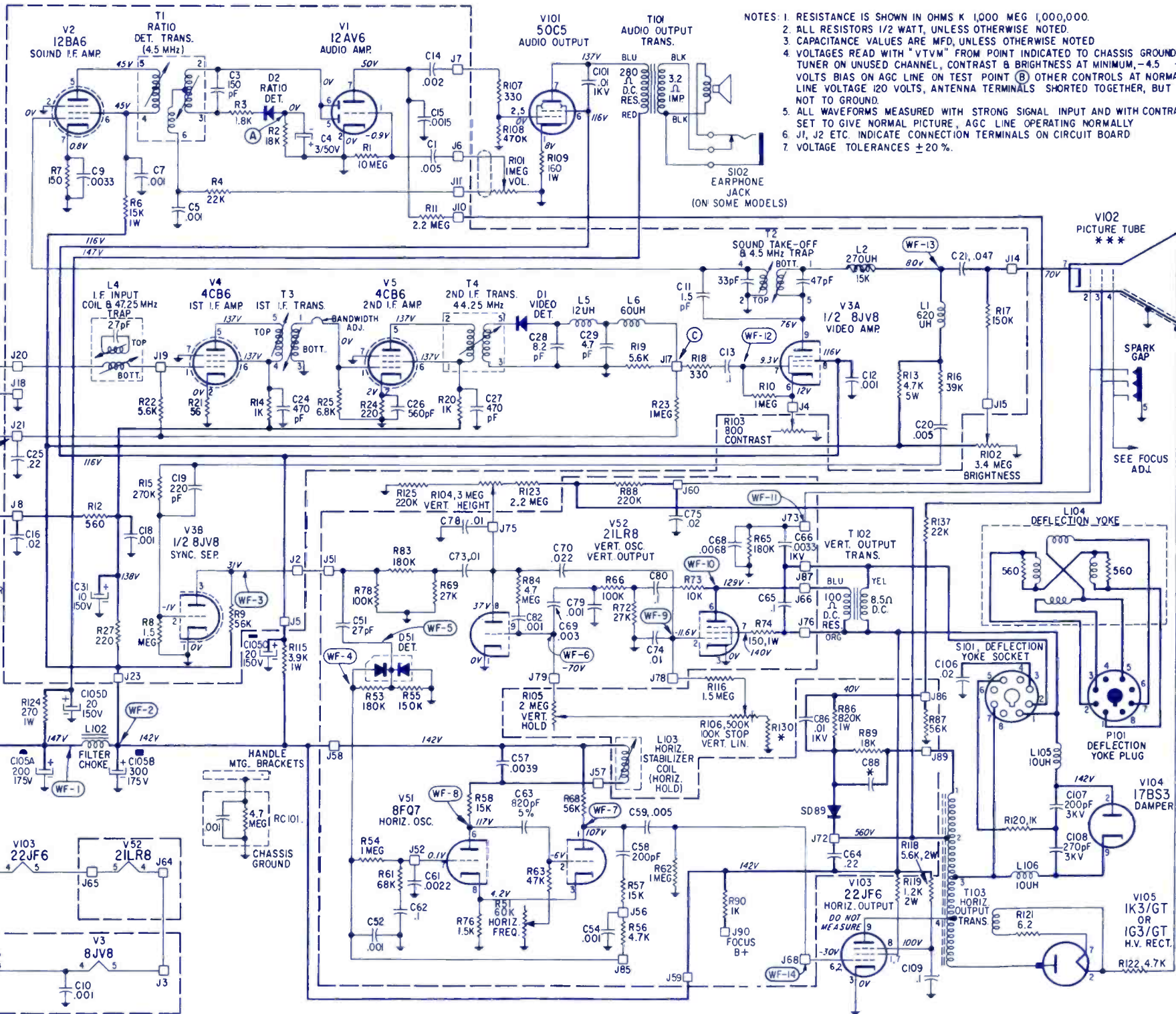
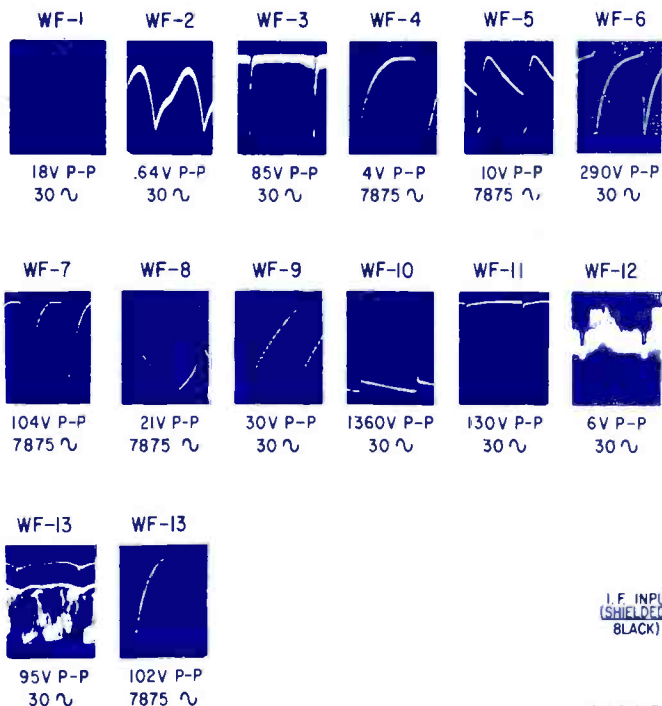
TV Chassis  
528.70370,71

# ELECTRONIC TECHNICIAN / DEALER TEKFAK

SYMBOL	DESCRIPTION	SILVERTONE PART NO.
CAPACITORS (all 500v, 20% unless noted otherwise)		
C3	150pf, 5%, NPO disc	20-619-0
C11	1.5pf, 10% NPO tubular	20-1-0
C105A	200µf, 175v elect	
C105B	300µf, 175v elect	
C105C	20µf, 150v elect	18-204-5
C105D	20µf, 150v elect	
C107	200pf, 10% 3kv N1600 disc	12-201516-8
C108	1µf, 200v Mylar	12-271516-8
RESISTORS		
R13	4.7K, 5w	68-47251
R51	60K, horiz freq	24-828
R111	300Ω 10w WW	61-290-0

R112	42Ω 10w WW	61-317-0
R113	1.8Ω circuit breaker	43-30-2
R114	3Ω 10w WW	61-316-0
RC101	.001µf capacitor and a 4.7M resistor RC network	13-17-3
R101	1M, off/on/vol control	24-853
R102	3.4M, bright control	24-703
R103	800Ω contrast control	24-704
R104	3M vert height control	24-491
R105	2M, vert hold control	24-875
R106	500K, vert lin control	24-916
XFORMERS & COILS		
T1	4.5MHz ratio det coil	10-318-1
T2	4.5MHz trap coil	10-209-1
T3	IF xformer first video	10-82-3
T4	IF xformer 2nd video	10-59-3

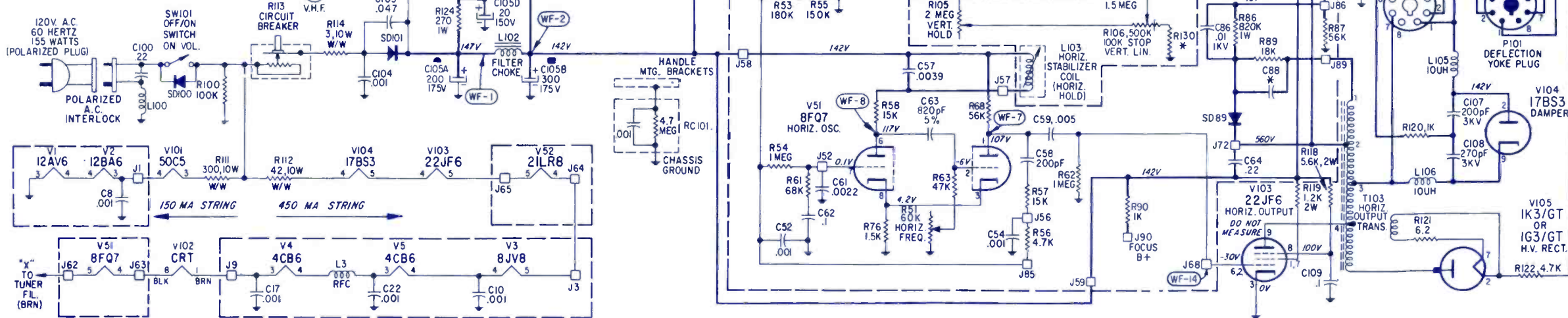
T101	audio output xformer	80-217-1
T102	vert output xformer	43-30-2
T103	horiz output xformer	80-77-3
L1	620µh peaking coil	10-236-1
L2	270µh wound on a 15K resistor peaking coil	10-150-1
L3	RF choke	10-240-1
L4	47.25MHz trap IF input coil	10-114-3
L5	coil RF choke (Tweet)	10-325-1
L6	60µh peaking coil	10-148-1
L100	line radiation choke	10-264-1
L102	filter choke	80-37-6
L103	horiz stabilizer coil	10-75-5
L104	deflection yoke (inc plug)	80-61-4
L104	deflection yoke (inc plug)	80-73-4
L105	horiz choke suppression circuit breaker	10-317-1
		43-30-2



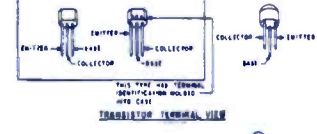
### CHASSIS DIFFERENCES

70370 Production Chassis  
70371 Chassis  
(C89) From .001 mfd to 220 pF.  
(R130) From 120K ohm to 100K ohm.

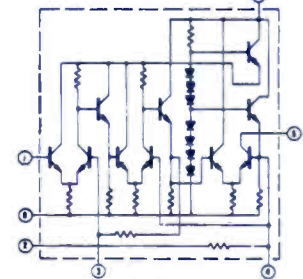
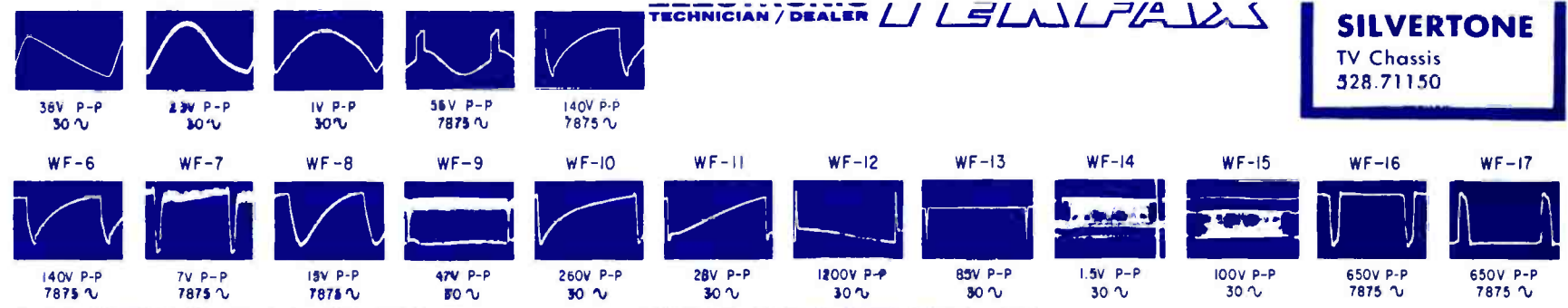
Reason: Better Vertical Linearity Range.  
To Reduce Horizontal Ringing and Shading problems.





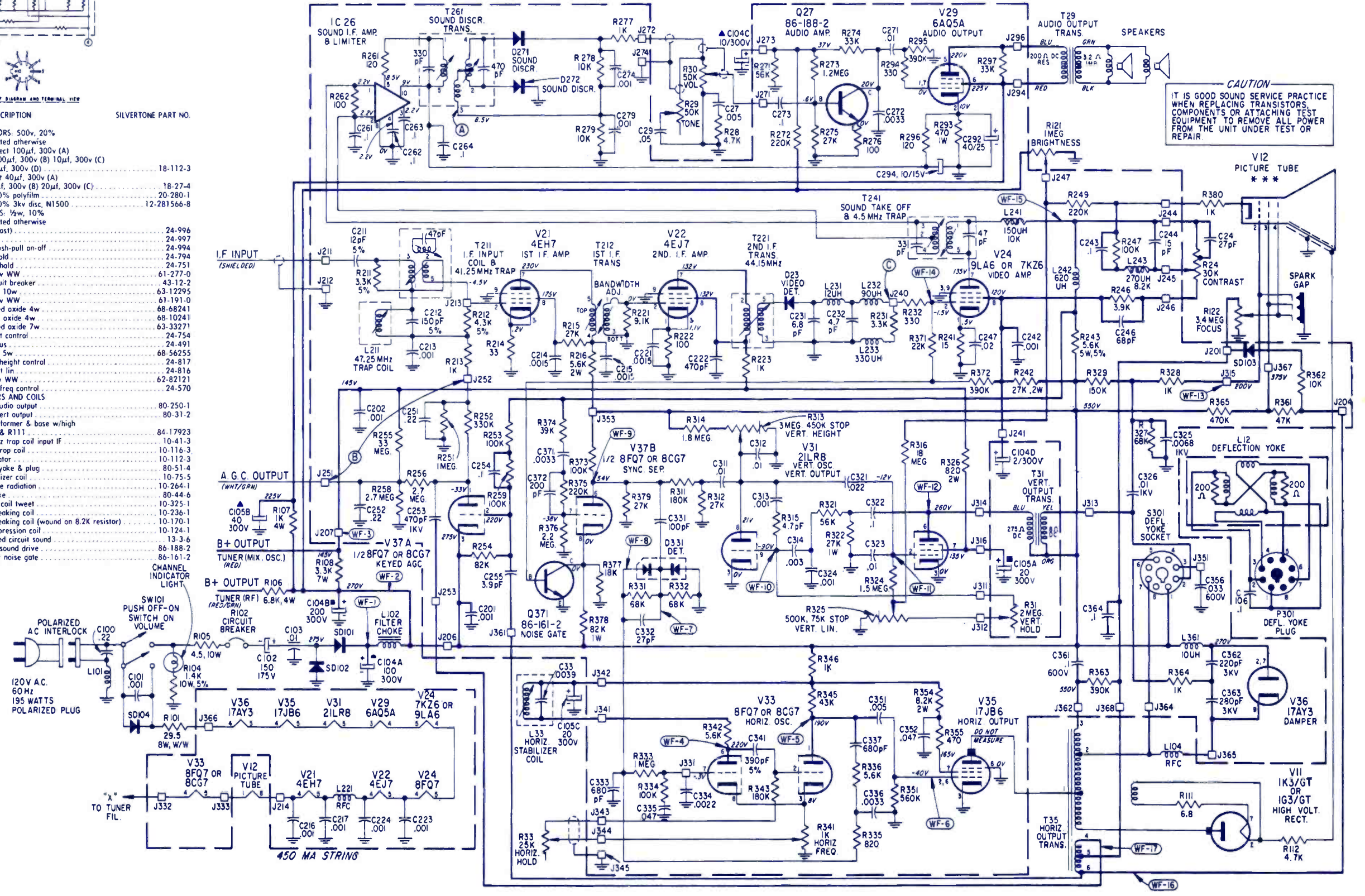


1. RESISTANCE IS SHOWN IN OHMS K 1,000 MEG 1,000,000.
2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.
4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B). OTHER CONTROLS AT NORMAL LINE VOLTAGES 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER, BUT NOT TO GROUND.
5. ALL WAVEFORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.
6. J1, J2 ETC. INDICATE CONNECTION TERMINALS ON CIRCUIT BOARD.
7. VOLTAGE TOLERANCES ± 20%.



SYMBOL	DESCRIPTION	SILVERTONE PART NO.
CAPACITORS: 500v, 20% unless noted otherwise		
C104A,B,C,D	elect 100µf, 300v (A) 200µf, 300v (B) 10µf, 300v (C) 2µf, 300v (D)	18-112-3
C105A,B,C	elect 40µf, 300v (A) 20µf, 300v (B) 20µf, 300v (C)	18-27-4
C337	680pf, 10% polyfilm	20-280-1
C363	280pf, 10% 3kv disc, N1500	12-281566-8
RESISTORS: 1/2w, 10% unless noted otherwise		
R24	30K (contrast)	24-996
R29	50K tone	24-997
R30	50K vol push-pull on-off	24-994
R31	2M vert hold	24-794
R33	25K horiz hold	24-751
R101	29.5Ω 8w WW	61-277-0
R102	1.5a circuit breaker	43-12-2
R104	1.2K 5% 10w	63-12295
R105	4.5Ω 10w WW	61-191-0
R106	6.8K fused oxide 4w	68-68241
R107	1K, fused oxide 4w	68-10241
R108	3.3K fused oxide 7w	63-33271
R121	1M bright control	24-754
R122	3.4M focus	24-491
R243	5.6K 5% 5w	68-56255
R313	3M vert height control	24-817
R325	500K vert lin	24-816
R326	820Ω 2w WW	62-82121
R341	1K horiz freq control	24-570
TRANSFORMERS AND COILS		
T29	x-former, audio output	80-250-1
T31	x-former, vert output	80-31-2
T35	high volt x-former & base w/high volt leads & R111	84-17923
T211	41.25MHz trap coil input IF	10-41-3
T241	4.5MHz trap coil	10-116-3
T261	discriminator	10-112-3
L12	deflection yoke & plug	80-51-4
L33	horiz stabilizer coil	10-75-5
L101	choke, line radiation	10-264-1
L102	filter choke	80-44-6
L231	RF choke coil tweet	10-325-1
L242	620µh peaking coil	10-236-1
L243	270µh peaking coil (wound on 8.2K resistor)	10-170-1
L361	horiz suppression coil	10-124-1
IC-26	integrated circuit sound	13-3-6
Q27	transistor sound drive	86-188-2
Q371	transistor noise gate	86-161-2
CHANNEL INDICATOR LIGHT		

**CAUTION**  
IT IS GOOD SOUND SERVICE PRACTICE WHEN REPLACING TRANSISTORS, COMPONENTS OR ATTACHING TEST EQUIPMENT TO REMOVE ALL POWER FROM THE UNIT UNDER TEST OR REPAIR.

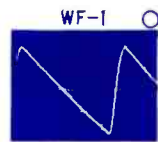




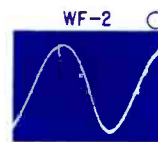
SILVERTONE

Color TV Chassis  
528.72500

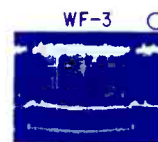
ELECTRONIC TECHNICIAN / DEALER **TEKFAK**



14V P-P  
60Hz



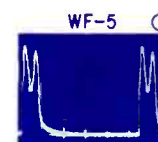
1.2V P-P  
60Hz



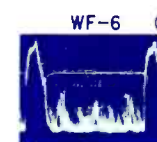
3.8V P-P  
60Hz



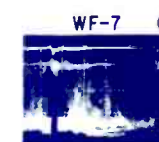
38V P-P  
60Hz



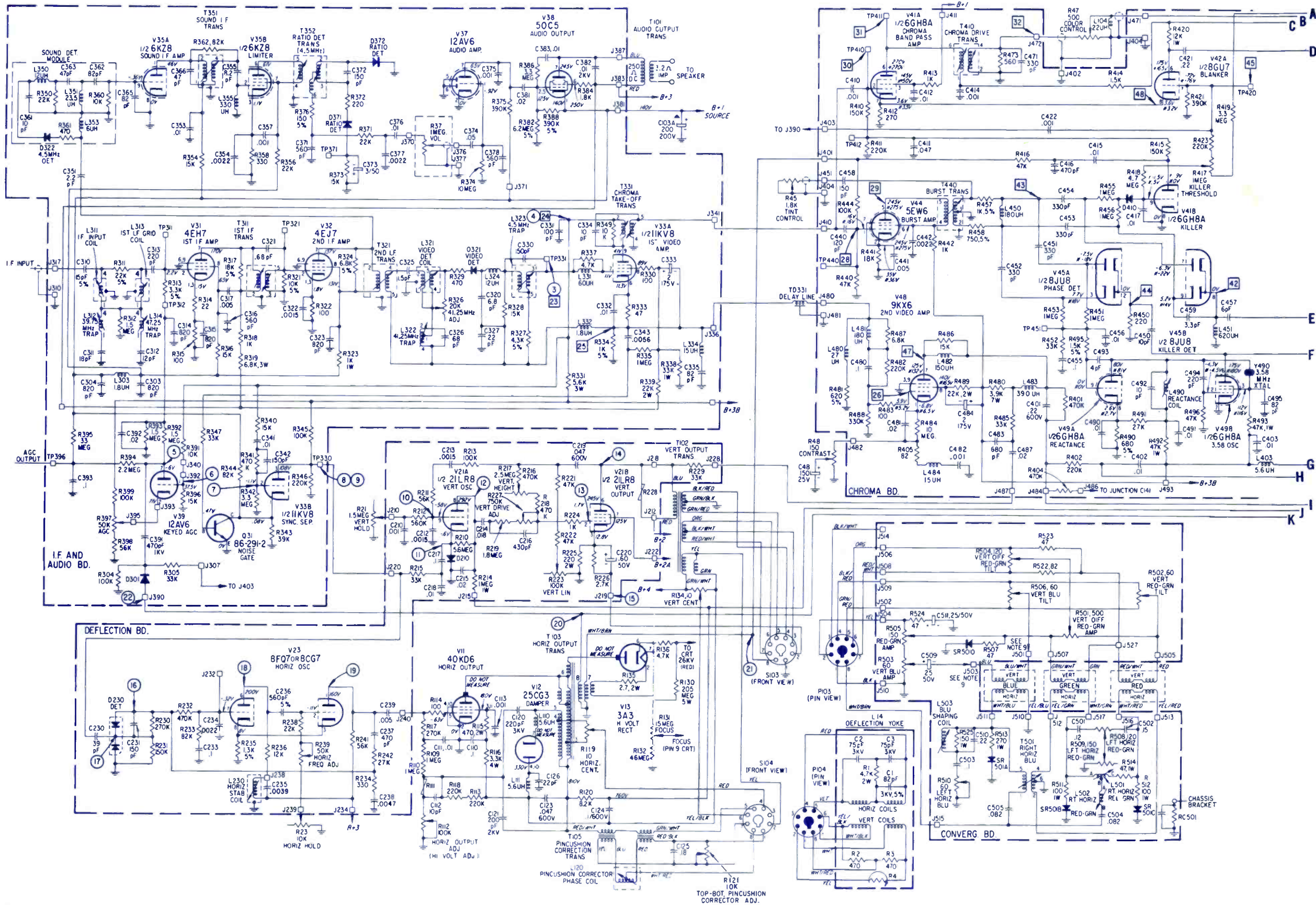
260V P-P  
15,750Hz



39V P-P  
15,750Hz



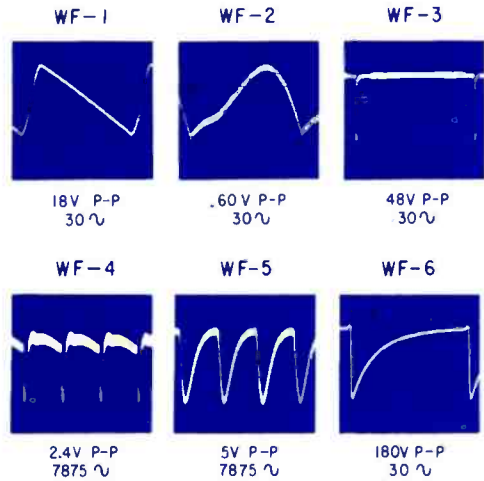
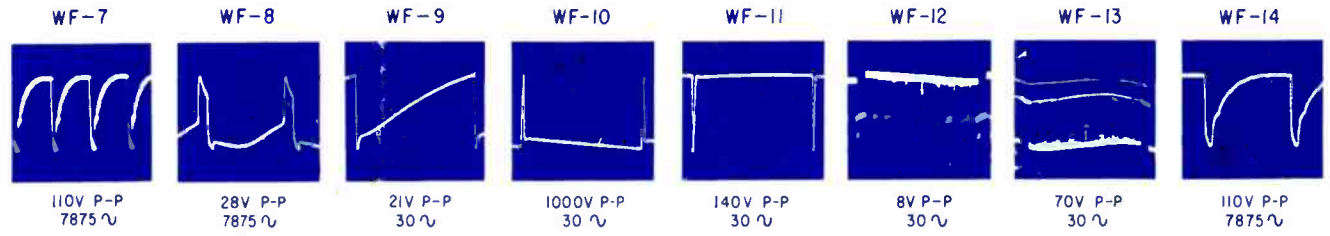
31V P-P  
60Hz



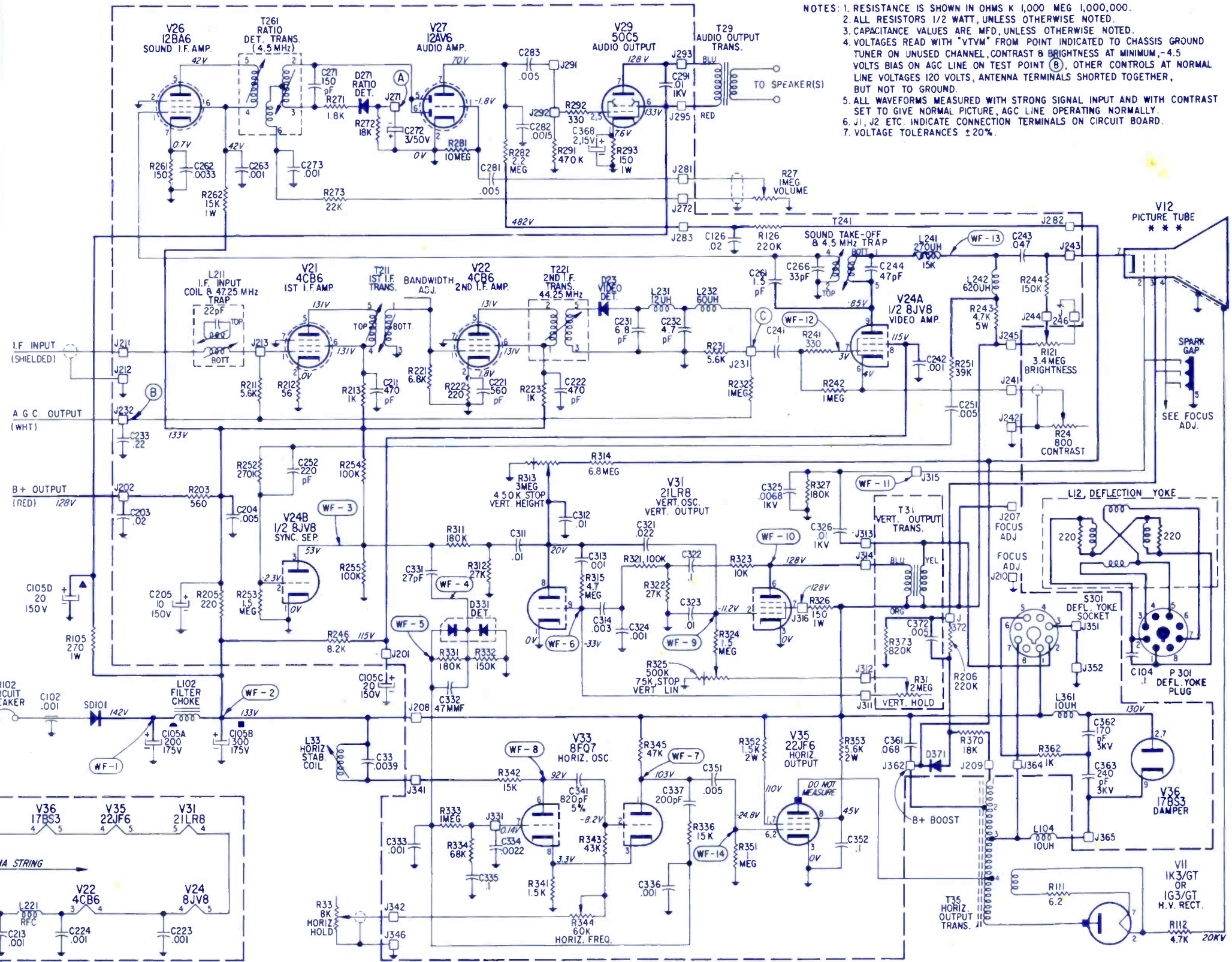




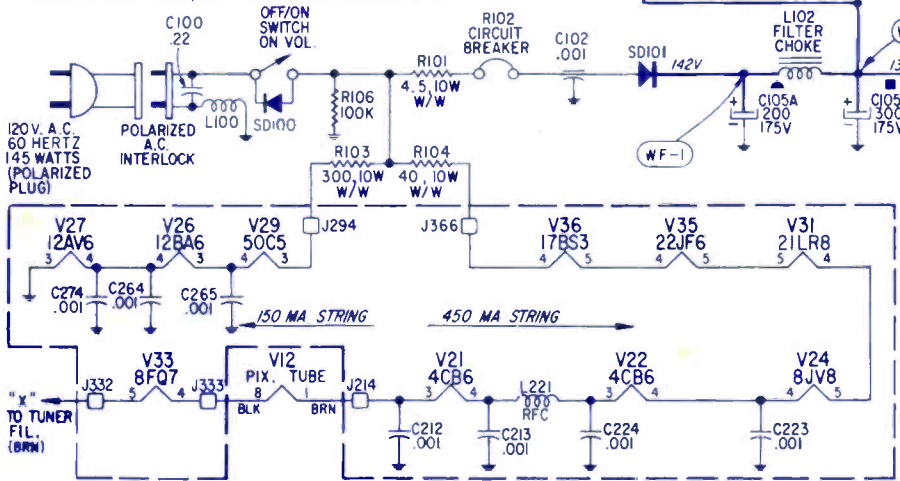




SYMBOL	DESCRIPTION	SILVERTONE PART NO.
C105A,B,C,D	elect 200µf 175v (A) 300µf 175v (B) 20µf 150v (C) 20µf 150v (D)	18-186-5
C271	disc 150pf 5% 500v NPO	20-619-0
C325	disc 0068µf +80-20% 1kv ZSU	12-682874-6
C341	polyfilm 820pf 5% 500v	20-327-1
C362	disc 170pf 10% 3kv N1500	12-171566-0
C363	disc 240pf 10% 3kv N1500	12-241566-6
R103	4.5Ω 10w WW	61-191-0
R102	circuit breaker (lamp)	43-23-2
R103	300Ω 5% 10w WW	61-299-0
R104	40Ω 10w WW	61-295-0
R243	4.7k 5w	63-4725-1
R314	6.8M	63-6850-1
RC101	470pf cap and a 2.2M resistor	13-88-3
T29	audio output xformer	80-266-1
T31	vert output xformer	80-30-2
T35	assem horiz output xformer base socket R111	84-17576
T241	coil 4.5MHz trap & sound take off	10-347-1
T26	coil ratio detector	10-318-1
L33	horiz stabilizer coil	10-75-5
L121	filter choke	80-47-6
L122	yoke & plug deflection	80-49-4
L211	input & 41.25MHz trap coil	10-114-3
L221	filament coil	10-156-1
L232	peaking coil (60µh)	10-148-1
L242	peaking coil (620µh)	10-236-1
L361	choke coil (10µh)	10-124-1
D331	dual selenium diode	86-9-1
	circuit bd w/components (except tubes)	35-19100
	VHF tuner	95-500-1
	UHF tuner	95-570-4
R24	contrast 800Ω control	24-749
R27	volume on-off 1M control	24-840
R31	vert hold 2M control	24-794
R33	control horiz hold BK	24-877
R121	bright control 3.4M	24-750
R313	vert height control 3.0M	24-817
R325	vert lin 500K control	24-816
R344	60K contrast horiz freq	24-828



- NOTES: 1. RESISTANCE IS SHOWN IN OHMS K, 1,000 MEG, 1,000,000.  
 2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED.  
 3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.  
 4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B). OTHER CONTROLS AT NORMAL LINE VOLTAGES 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER, BUT NOT TO GROUND.  
 5. ALL WAVEFORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.  
 6. J1, J2 ETC INDICATE CONNECTION TERMINALS ON CIRCUIT BOARD.  
 7. VOLTAGE TOLERANCES ± 20%.



\*\*\*Picture Tube 23HFP4 - 23 HFP4A



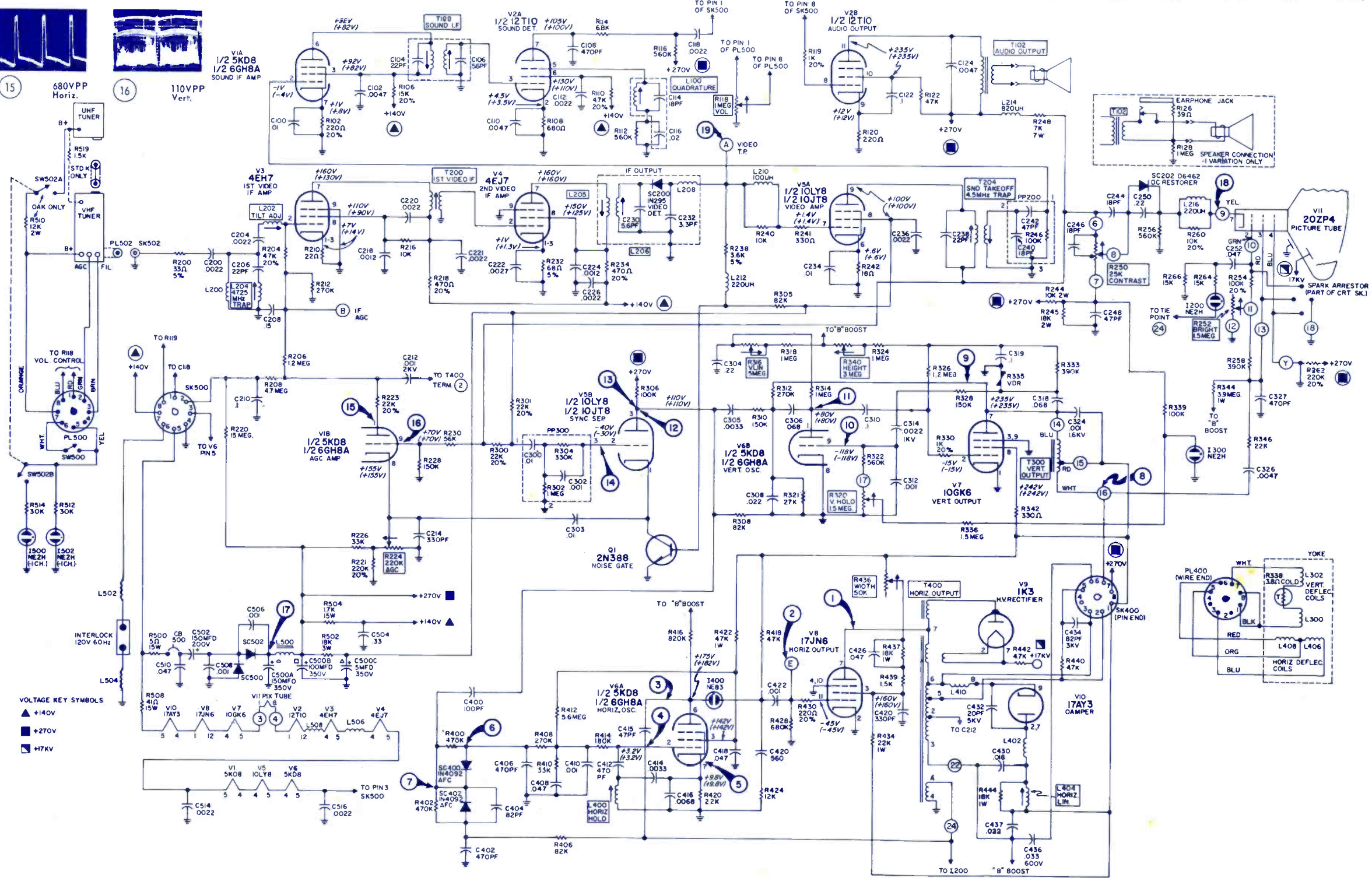
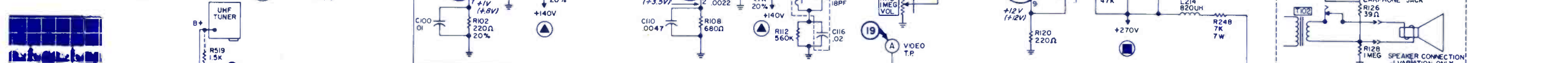
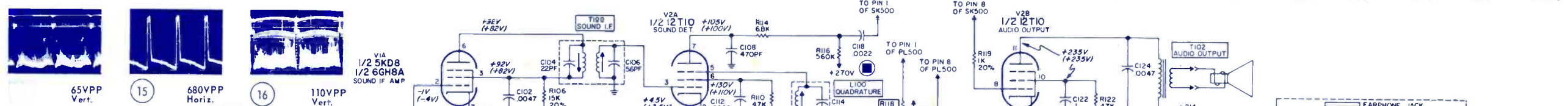
SYMBOL	DESCRIPTION	PART NO.
C324	.001µF 1.6kv	45-88215-17
C432	20pf 5kv	43-11028-4
C434	82pf 3kv N1500	43-95914-1
C500	3 section elect	41-27821-1
C500A	150-350v	41-27821-1
C500B	100-350v	41-27821-1
C500C	5-350v	41-27821-1
R118	1-M volume On/Off	37-15287-3
R224	220K AGC	37-11832-1
R248	7K-7w (-2 var)	35-92495-16
R250	25K contrast	37-27837-1

R316	5M vert lin	37-11632-1
R320	1.5M vert hold	37-27837-2
R335	VDR	38-15275-17
R340	3-Mheight	37-11632-1
R436	50K width	37-27868-1
R500	5015w	38-92898-18
R502	18K 3w	35-92495-41
R504	1.7K 15w	36-92898-19
R508	41Ω15w	36-92898-48
L100	quad	57-11602-1
L202	tilt adj	57-11811-1
L204	47.25MHz trap	57-11637-1
L206	video detector	57-11652-1

L212	220µh peaking	50-15318-12
L214	820µh peaking	50-15318-19
L400	horiz hold	50-27910-1
L402	filter	50-92043-3
L404	horiz lin	50-15019-1
L500	choke filter	56-11651-6
L504	choke	50-27390-1
L508	choke	50-85963-2
T100	sound xformer	57-11606-1
T102	audio output xformer	56-27824-1
T200	1st video IF xformer	57-11612-2
T204	sound take off 4.58MHz trap	57-11604-1
T300	vert output xformer	56-27823-1

T400	horiz output xformer	50-27819-1
SC20	diode video detector	1N295
SC202	dc restorer diode	D6462
Q1	trans noise gate 2N388	13-27060-1
CB500	circuit breaker tuner VHF	29-88908-5
	choke	54-27848-1
	choke	51-27822-1

**SYLVANIA**  
TV Chassis B10-1,2



**VOLTAGE KEY SYMBOLS**  
 ▲ +140V  
 ■ +270V  
 ▽ +7KV



SYLVANIA

Color TV Chassis  
D09-1,-2,-4

ELECTRONIC TECHNICIAN / DEALER **TEKFAK**

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltage measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station.
4. Contrast and Brightness control set for normal picture.
5. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

3. Waveforms measured with respect to chassis using a TEKTRONIC 535 oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitude.)
4. The terms "VERT" or "HORIZ" refer to scope frequency.
5. V/DIV refer to peak voltage per each major division.
6. Waveforms marked with an (\*) were taken using a color bar generator as signal source.

PARTS CODING

Sound Section	100-199
Video Section	200-299
Vert. and Sync Section	300-399
Horiz. and H.V. Section	400-499
L.V. Supply and Misc.	500-599
Chroma Section	600-799
Convergence Section	800-899
Pin Cushion Section	900-999

GENERAL SCHEMATIC NOTES

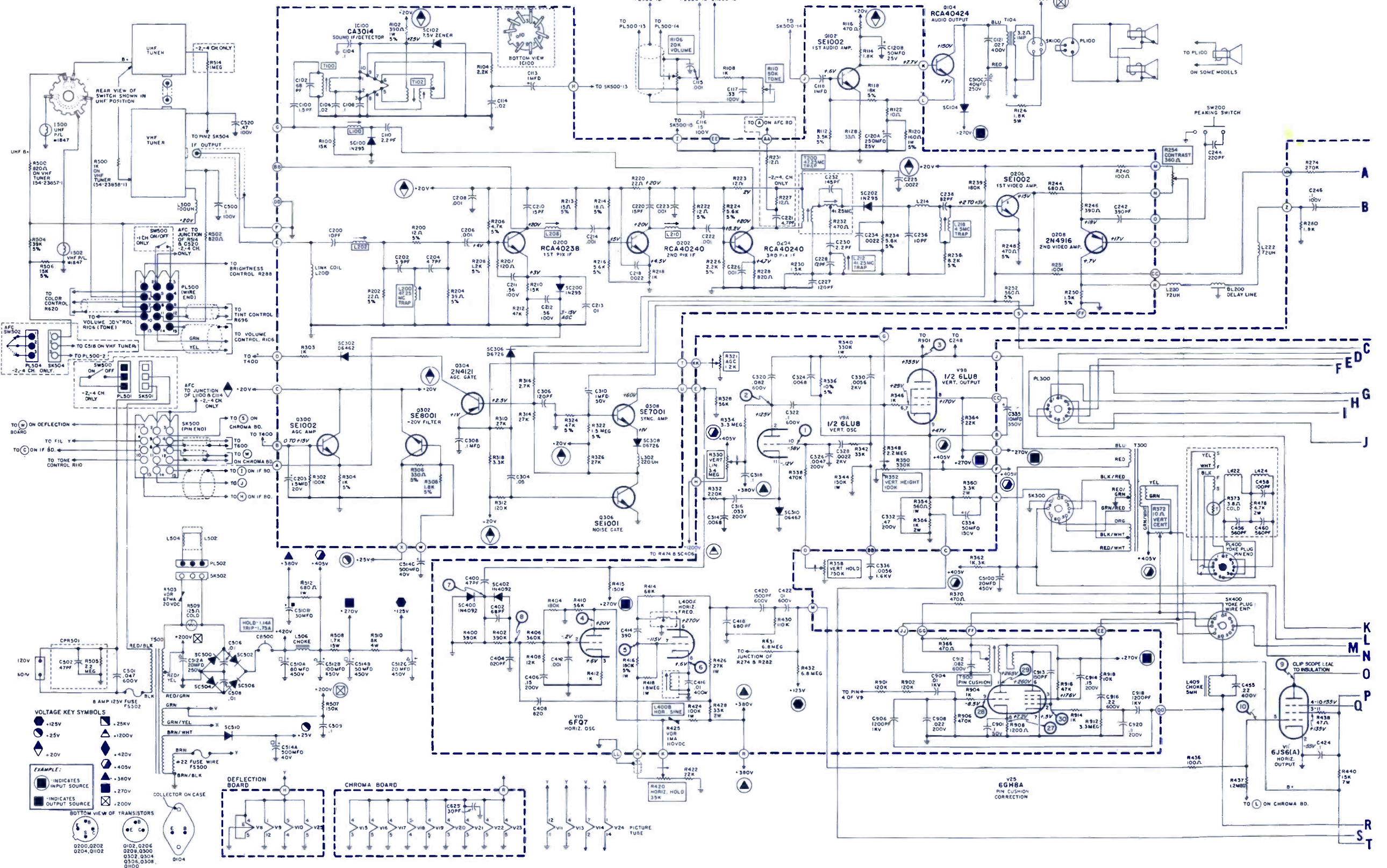
1. Encircled letters on edge of printed circuit indicate tie points, corresponding with those shown on printed board parts layout.
2. (- -) denotes printed board areas.
3. All capacitors are in microfarads unless otherwise specified.
4. Arrows on controls indicate direction of clockwise rotation.

IMPORTANT

READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

WAVEFORM MEASUREMENT CONDITIONS

1. Waveforms taken using a strong signal (test pattern).
2. All controls set for a normal viewing picture.









**SYLVANIA**

Color TV Chassis  
D08-2

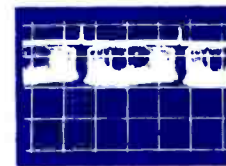
**ELECTRONIC TECHNICIAN / DEALER** **TEKFAKX**



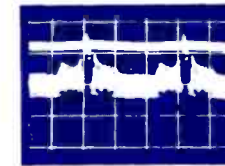
1 2.0VPP  
Vert.



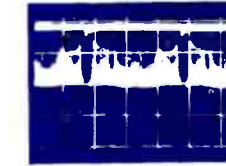
2 6.0VPP  
Vert.



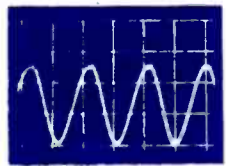
3 100VPP  
Vert.



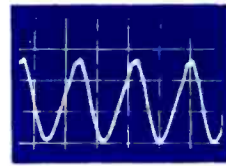
4 50VPP  
Vert.



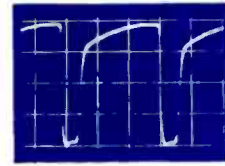
5 40VPP  
Vert.



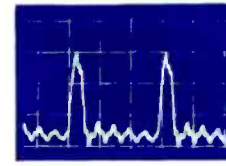
13 120VPP  
Horiz.



14 55VPP  
Horiz.



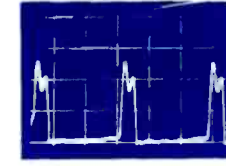
15 200VPP  
Horiz.



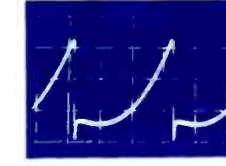
16 300VPP  
Horiz.



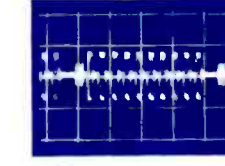
17 200VPP  
Horiz.



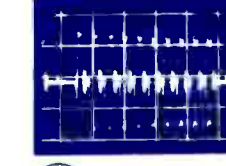
18 250VPP  
Horiz.



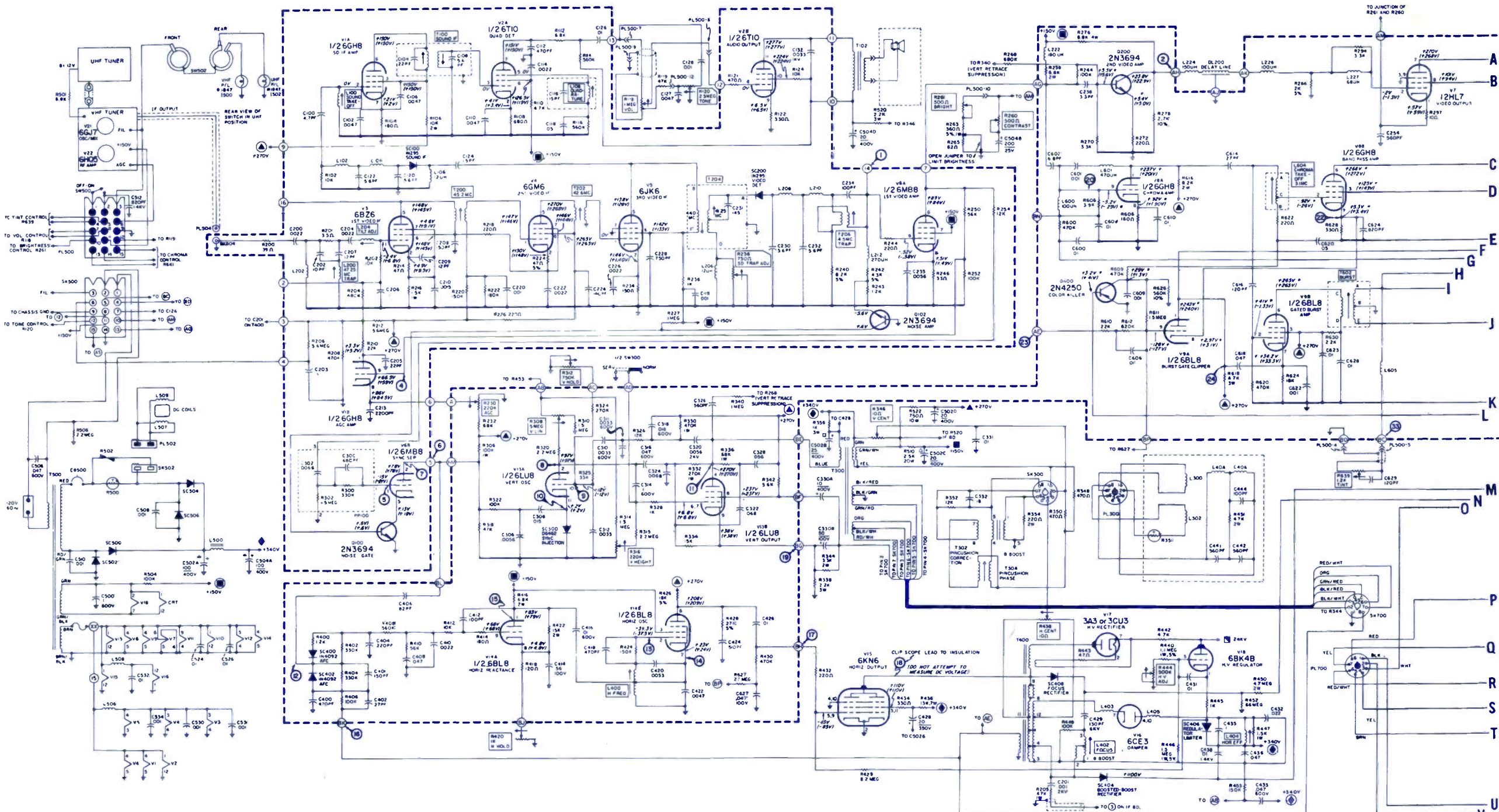
19 18VPP  
Vert.



20 \* 2VPP  
Horiz.



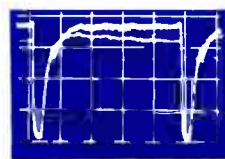
21 \* 30VPP  
Horiz.



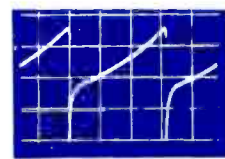




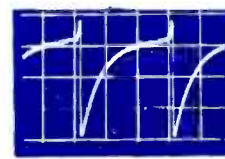
6 60VPP Vert.



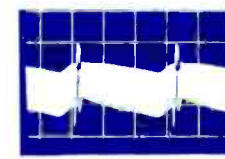
7 60VPP Horiz.



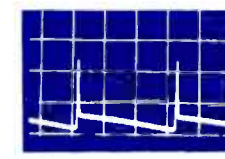
8 70VPP Vert.



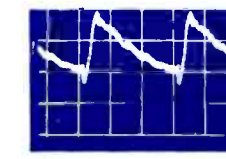
9 35VPP Vert.



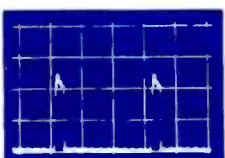
10 1.5VPP Vert.



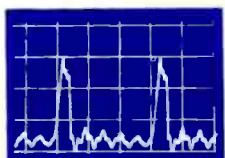
11 1100VPP Vert.



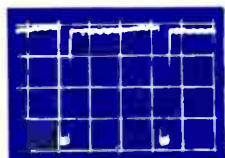
12 50VPP Horiz.



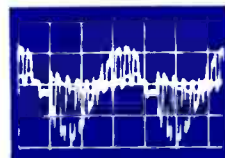
22 \* 25VPP Horiz.



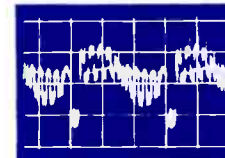
23 \* 300VPP Horiz.



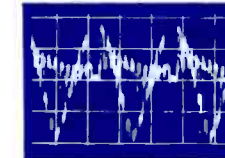
24 \* 38VPP Horiz.



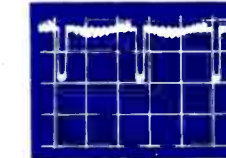
25 \* 17VPP Horiz.



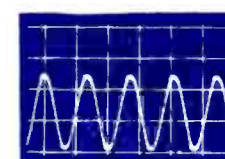
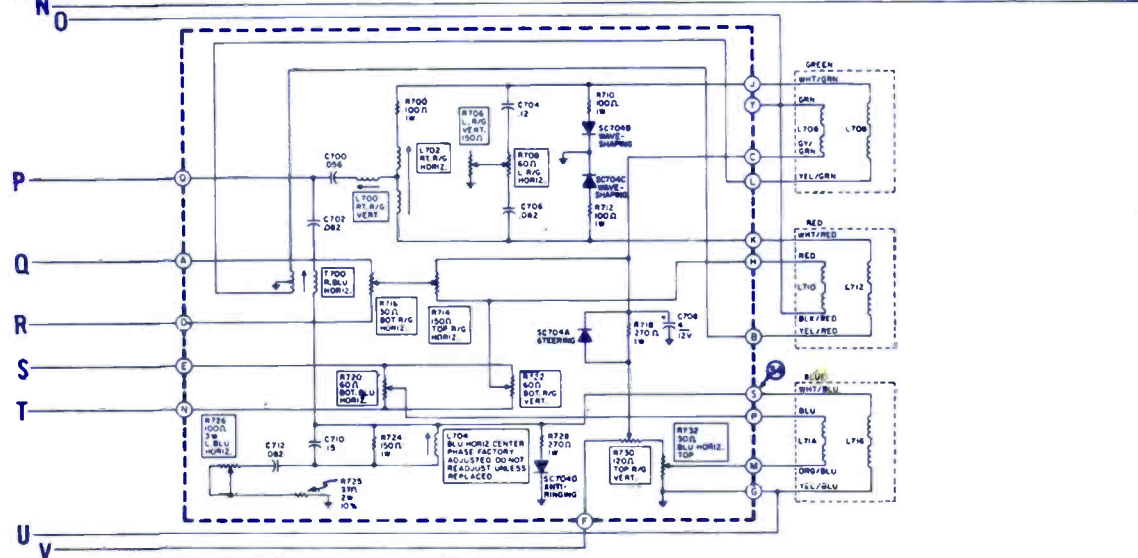
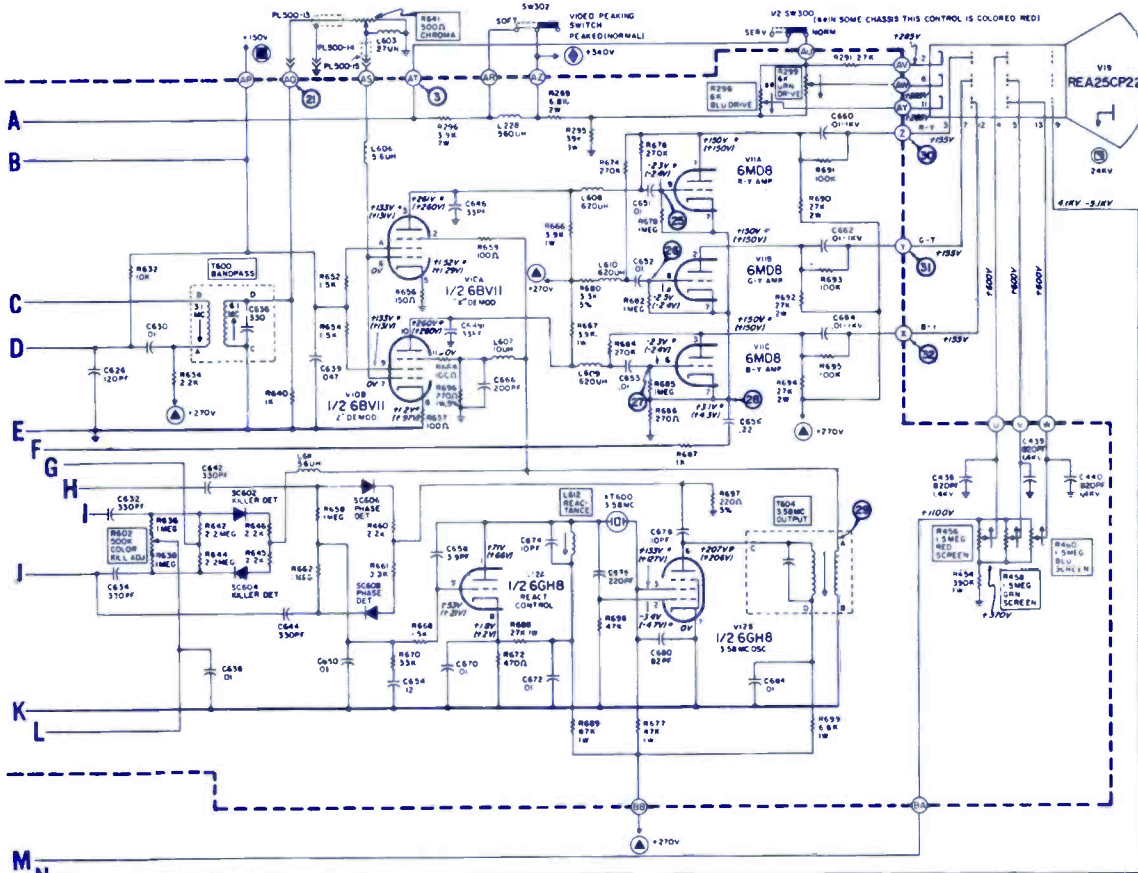
26 \* 3.5VPP Horiz.



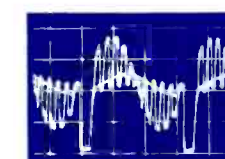
27 \* 18VPP Horiz.



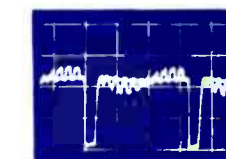
28 \* 10VPP Horiz.



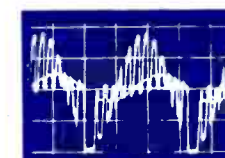
29 \* 25VPP 3.58MC



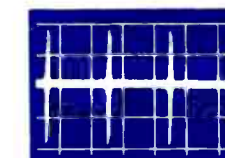
30 \* 185VPP Horiz.



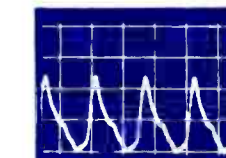
31 \* 140VPP Horiz.



32 \* 185VPP Horiz.

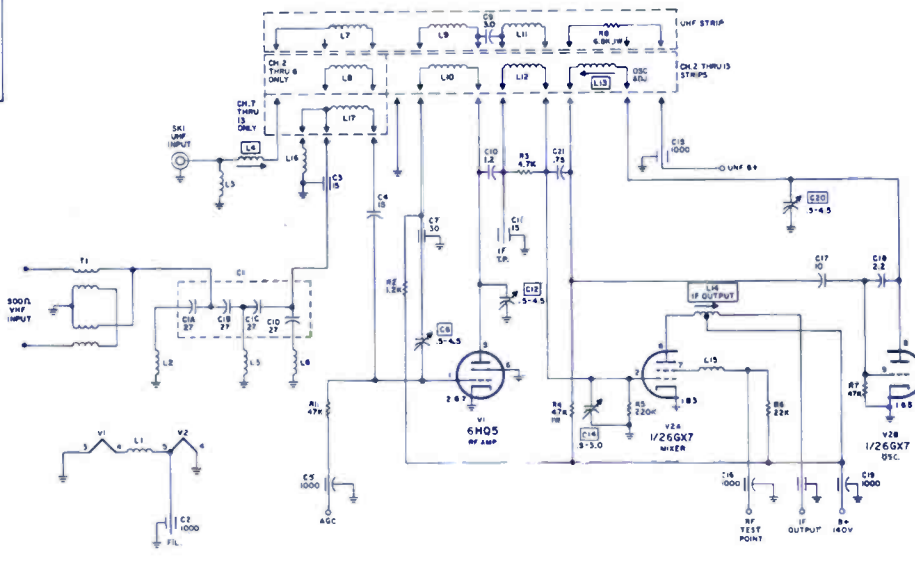


33 \* 40VPP Horiz.



34 \* 50VPP Horiz.

# WAVEFORMS



VHF TUNER (54-27566-1)

SYMBOLS	DESCRIPTION	Sylvania PART NO.
CAPACITORS: 500v unless otherwise specified		
C330	2 section elect	41-23484-1
(A) 10μf/400v		
(B) 50μf/100v		
C436	820pf, 1.4kv, spark gap	29-23539-1
C438	1μf, 1.4kv	43-98665-1
C439	C440-820pf, 1.4kv, spark gap	29-23539-1
C502	4 section elect	41-23481-1
(A) 100μf/400v		
(B) 100μf/25v		
(C) 1μf/400v		
(D) 20μf/400v		
C504	4 section elect	41-23480-1
(A) 100μf/400v		
(B) 100μf/25v		
(C) 1μf/400v		
(D) 20μf/400v		
RESISTORS (all 1/2w, 10% unless otherwise specified)		
R276	6.8K, 4w	35-92495-98
R295	39K, 3w	35-92495-70
R296	3.9K, 7w	35-92495-92
R338	1.2K, 3w	35-92495-88
R436	13K, 7w	35-92495-54
R452	66M	35-97961-3
R500	120Ω, cold thermistor	38-17071-1
R502	VDR	38-17072-1
R629	8.2M	
R662	1M, 2%	35-16258-44
R680	3.3K, 5%	
COILS		
L100	sound take-off	50-23213-1
L102	filter	50-11378-1
L104	36μh, tweeter	50-16103-13
L108	quod	50-23213-2
L202	IF link	50-17680-6
L210	filter	50-11378-1
L224	150μh, peaking	50-23921-10
L227	68μh, peaking	50-15318-6
L300	vert deflection	part of yoke
L302	vert deflection	part of yoke
L400	horiz osc	50-23508-1
L402	focus	50-16023-4
L403	choke	50-92043-1
L404	efficiency	50-23507-1
L405	choke	50-92043-1
L506	filament choke	50-85963-2
L507	degaussing	
L508	filament choke	50-10261-1
L601	470μh, peaking	50-15318-16
L604	chroma take-off	50-16184-4
L608, L609	620μh, peaking	50-17593-1
L612	reactance	50-16185-3
L700	horiz convergence	50-16248-5
XFORMERS		
T100	sound interstage	57-11606-1
T102	audio output	56-16018-6
T200	1st IF interstage	57-23095-1
T202	2nd IF interstage	57-15906-7
T206	4.5MHz trap	50-16238-5
T300	vert output	56-17559-3
T302	pincushion correction	50-23485-1
T304	pincushion phase	50-23505-1
T400	HV	50-23506-1
T500	power	55-23504-1
T600	band pass	50-16190-2
T602	burst phase	50-16191-2
T604	3.58MHz output	50-16192-3
T700	red/blue horiz convergence	50-16248-9
MISCELLANEOUS ELECTRICAL PARTS		
CB500	circuit breaker	29-23493-1
DL200	delay line	32-23216-1
PP100	sync take-off plate	32-23041-1
PP100	sync take-off plate	32-23041-1
Q100	noise gate transistor	13-23916-1
Q102	noise amp transistor	13-23916-1
Q200	2nd video amp transistor	13-15840-1
Q600	color killer transistor	13-22582-1
SC408	focus rectifier diode	13-16106-1
CONTROLS		
R118	1M, vol/on/off	37-15536-5
R120	1.5M, tone	37-23479-4
R230	220K, ogc	37-11632-7
R238	750Ω, sound trap adjust	37-17321-1
R260	15K, contrast	37-23479-3
R261	100K, bright	37-23479-3
R299	6K, green drive	38-11632-13 (part of 298)
R308	5M, vert lin	part of R230
R312	750K, vert hold	37-23479-2
R316	200K, vert height	part of R230
R346	10Ω, vert centering	37-16021-17
R420	1K, horiz hold	37-23479-1
R438	10Ω, horiz centering	37-17539-1
R444	500K, HV adjust	37-16020-27
R456	1.5M, red screen	37-11632-9
R602	500K, color killer	part of R298
R639	1.2K, tint	37-23479-5
R641	500Ω, color	37-23479-5
R706	150Ω, left/red/grn vert	37-16021-7
R714	150Ω, top/red/grn horiz	37-16021-7
R722	60Ω, bot/red/grn vert	37-16021-2
R732	30Ω, top/blue/horiz	37-16021-6
CHASSIS PARTS		
	deflection yoke	51-15949-2
TUNERS		
	UHF tuner	54-23100-2
	VHF tuner	54-27566-1



**SYLVANIA**

Color TV Chassis  
D11-1,-2

**ELECTRONIC TECHNICIAN / DEALER TEKFAK**



1 2.5VPP Vert.



2 6VPP Vert.



3 150VPP Vert.



4 20VPP Vert.



5 20VPP Vert.



6 60VPP Vert.

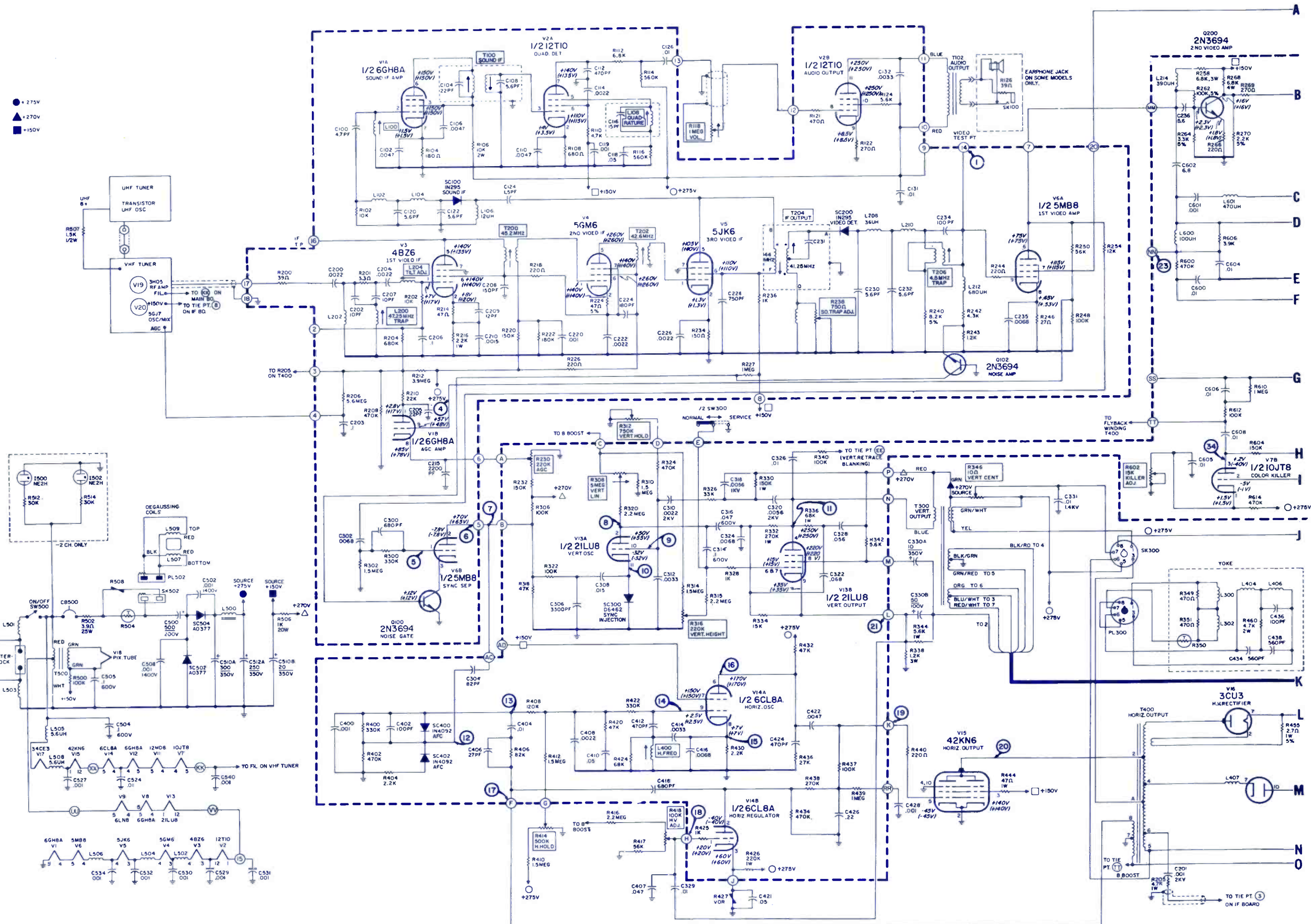


7 60VPP Horiz.

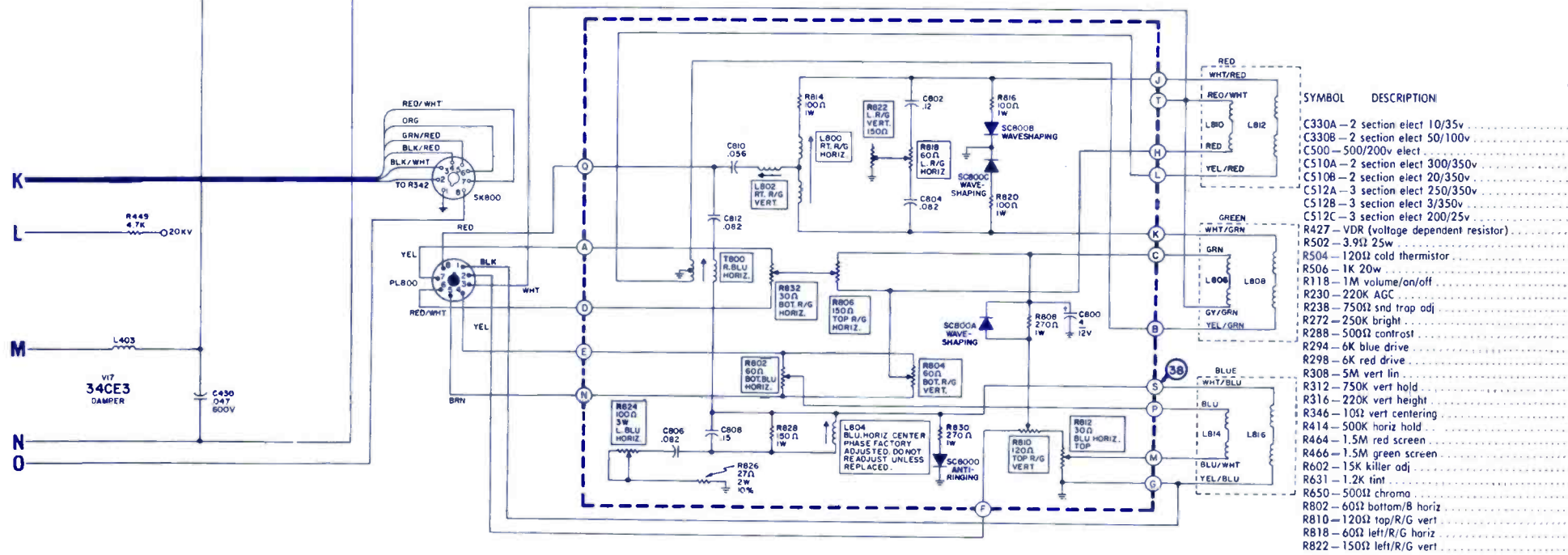
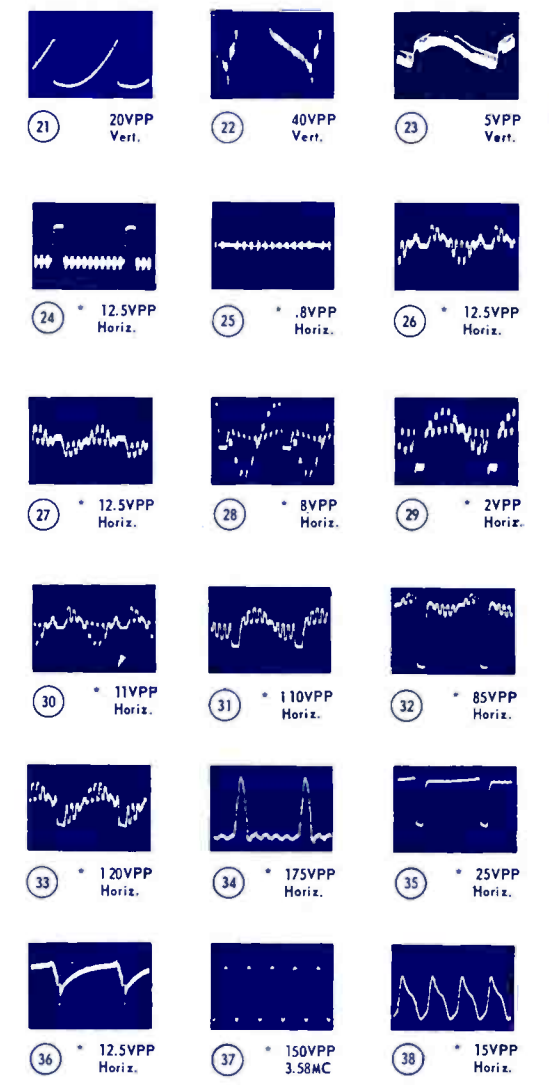
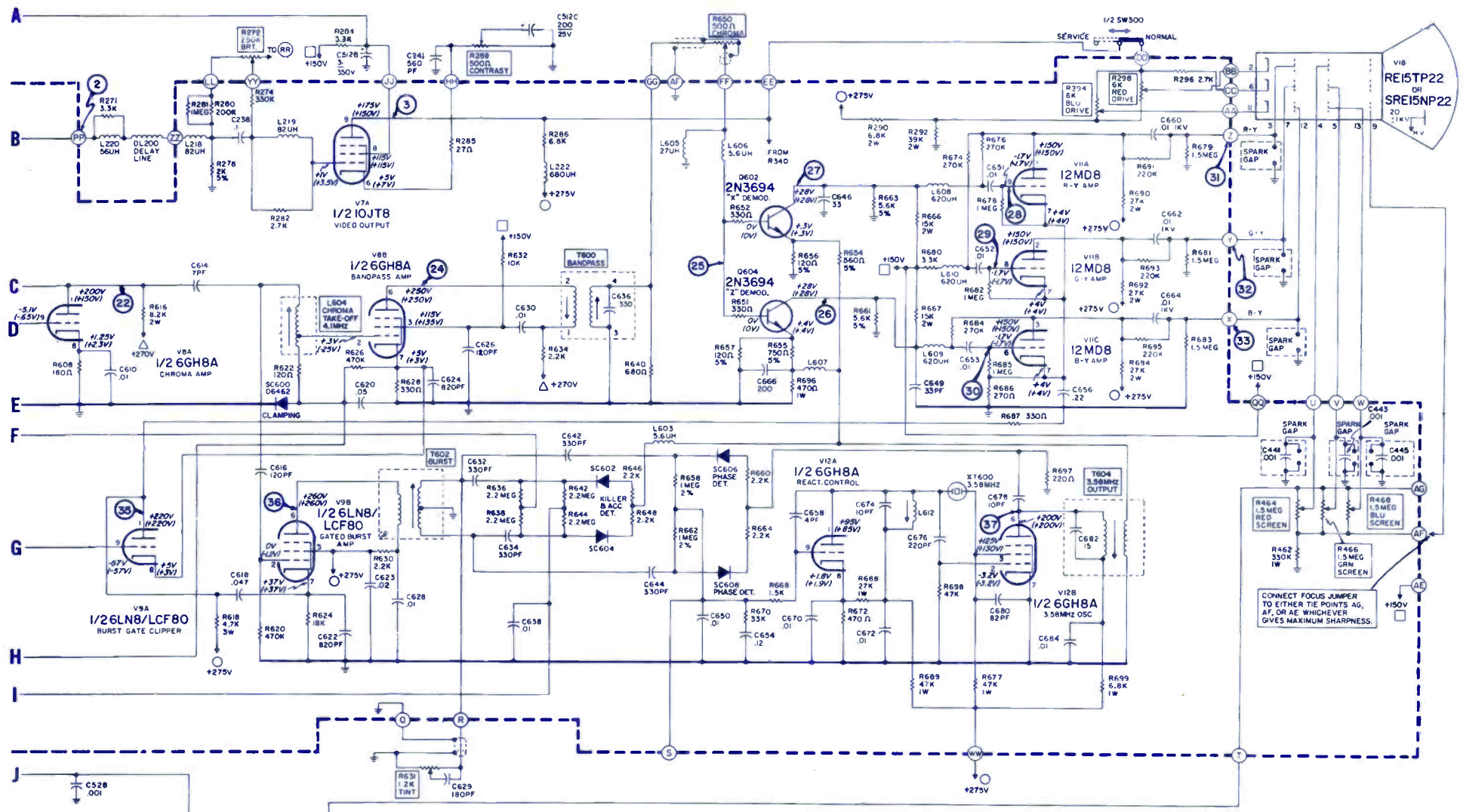
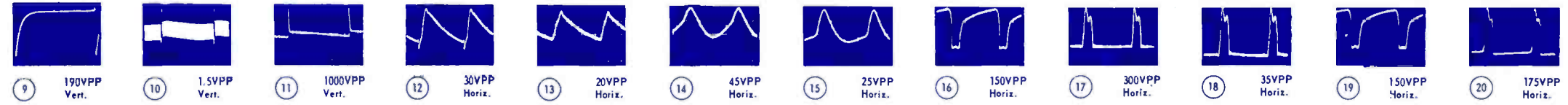


8 80VPP Vert.

- +275V
- ▲ +270V
- +150V







SYMBOL	DESCRIPTION	SYLVANIA COLOR TV PART NO.	37-16021-21
C330A	2 section elect 10/35v	41-23157-1	50-23213-1
C330B	2 section elect 50/100v	41-23157-1	50-23213-2
C500	500/200v elect	41-17315-1	57-11637-2
C510A	2 section elect 300/350v	41-17316-1	50-17326-1
C510B	2 section elect 20/350v	41-17316-1	50-92043-1
C512A	3 section elect 250/350v	41-17317-1	56-17568-2
C512B	3 section elect 3/350v	41-17317-1	50-16184-4
C512C	3 section elect 200/25v	41-17317-1	50-16185-3
R427	VDR (voltage dependent resistor)	38-15257-9	50-16248-6
R502	3.9Ω 25w	36-92898-33	50-17850-1
R504	120Ω cold thermistor	38-17071-1	57-11606-1
R506	1K 20w	36-92898-34	part of speaker
R118	1M volume/on/off	37-27243-9	57-23095-1
R230	220K AGC	37-11632-7	57-15906-7
R238	750Ω snd trap adj	37-17321-1	57-17517-1
R272	250K bright	37-23479-25	50-16238-5
R288	500Ω contrast	37-23479-39	56-17559-7
R294	6K blue drive	37-11632-16	50-27760-1
R298	6K red drive	37-11632-16	55-27752-1
R308	5M vert lin	37-11632-7	50-16190-2
R312	750K vert hold	37-23479-40	50-16191-2
R316	220K vert height	37-11632-7	50-16192-3
R346	10Ω vert centering	37-16021-17	50-16248-9
R414	500K horiz hold	37-27242-14	29-17312-1
R464	1.5M red screen	37-11632-9	32-16028-2
R466	1.5M green screen	37-11632-9	13-15840-1
R602	15K killer adj	37-11632-16	13-15840-1
R631	1.2K tint	37-23479-38	13-15840-1
R650	500Ω chroma	37-23479-37	13-15840-1
R802	60Ω bottom/B horiz	37-16021-2	26-16162-1
R810	120Ω top/R/G vert	37-16021-5	51-27761-1
R818	60Ω left/R/G horiz	37-16021-2	
R822	150Ω left/R/G vert	37-16021-7	



**TRUETONE**  
TV Model 2DC3818

**ELECTRONIC TECHNICIAN** *TEKFA*X

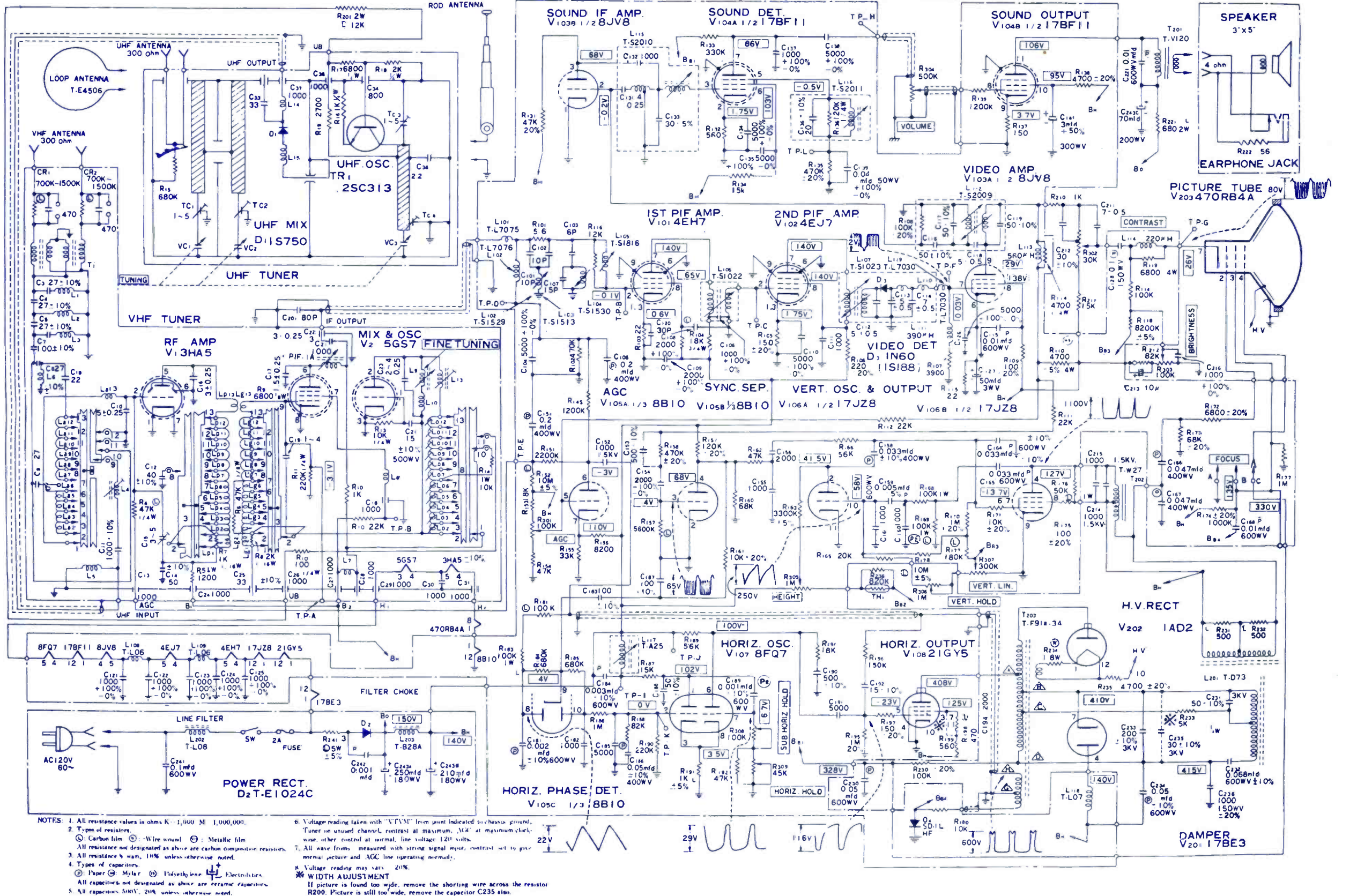
SYMBOL	DESCRIPTION	TRUETONE PART NO.
C152,236,142	—cer 1000µf 20% 1.5kv	04-0142
C214	—cer 2000µf 20% 2kv	04-0143

C235	—cer 30pf 10% 3kv	04-0144
C189	—mylar 1000µf 5% 600wv	02-0114
C106,151	—mold metalized paper 2µf 20% 150v	01-0024
C243A,B,C	—elect 250/210/70µf 180v	06-0064
C127	—elect 50µf 3v PC	06-0029

C141	—elect 3µf 300v	06-0065
C312	—elect 10µf 150v	06-0041
R101	—5.6k 5%	11-0205
R163	—2.2M 5% 1/2w	12-0157
R157	—5.6M 5% 1/2w	12-0158
R118	—8.2M 5% 1/2w	12-0160
R152,179	—10M 5% 1/2w	12-0161
R221	—680Ω 10% 2w	12-0171
R201	—12K 10% 2w	12-0173
R110	—4.7K 5% 4w	12-0174
R241	—33Ω 5% 5w WW	13-0014
D3	—diode det 1N60 or 1S188	32-0007 or 32-0041
TH	—thermistor	16-0025
TR1	—transistor UHF OSC 2SC313	31-0237
R304	—on/off vol control 500K-A	14-0123

R302	—contrast 30K-B	14-0145
R306	—vert hold 1M	14-0146
R303	—brightness 100K-B	14-0122
R308	—horiz range 100K-B	14-0148
R301	—variable block including AGC, height vert line and	14-0147
R309	—	
L101	—combination coil-A	24-0298
L102	—combination coil-B	24-0299
L103	—47.25MHz trap coil	24-0300
L104	—47.25MHz trap coil	24-0301
L105	—video IF input trans	22-0371
L106	—video IF trans	22-0372
L107	—video det trans	22-0373
L108,109	—heater choke coil	24-0302

L111	—peaking coil	24-0303
L112	—4.5MHz sound takeoff	24-0304
L113	—peaking coil	24-0305
L114	—peaking coil	24-0306
L115	—4.5MHz sound IF coil	24-0307
L116	—quad coil	24-0308
L117	—horiz stab. coil	24-0309
L118	—RF choke coil	24-0294
L119	—filter coil	24-0295
L201	—deflection yoke assembly	36-0006
L202	—line filter coil	24-0296
L203	—filter choke coil	24-0297
T201	—sound output trans	21-0114
T202	—vertical output trans	21-0115
T203	—HV xformer	36-0007
	fuse 2a 250v	18-0002

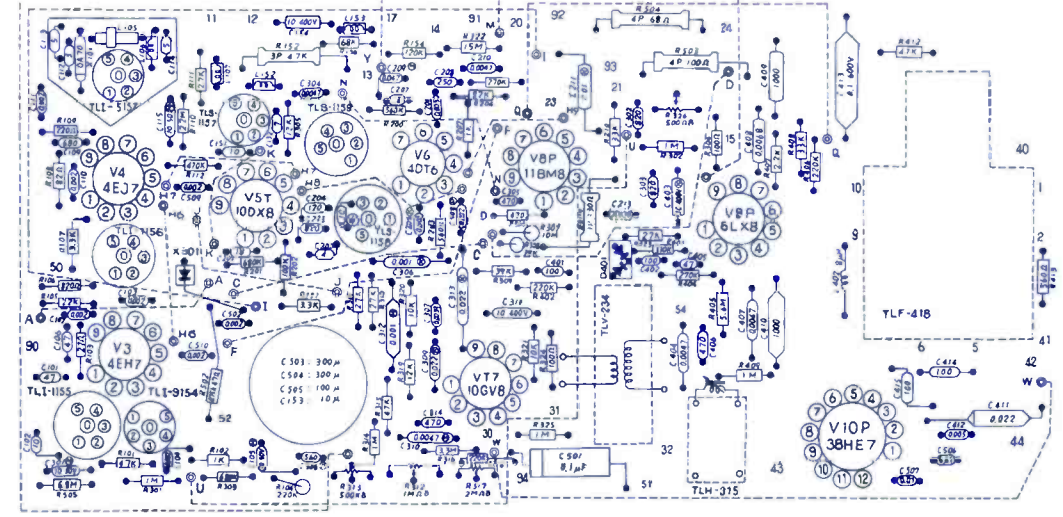


**NOTES:**

- All resistance values in ohms R-; 1,000 M-; 1,000,000.
- Types of resistors:  
 (C) Carbon film (W) Wire wound (M) Metallic film  
 All resistance not designated as above are carbon composition resistors.
- All resistance % with 10% unless otherwise noted.
- Types of capacitors:  
 (P) Paper (M) Mylar (E) Polyester (E) Electrolytic  
 All capacitors not designated as above are ceramic capacitors.
- All capacitors 50V, 20% unless otherwise noted.

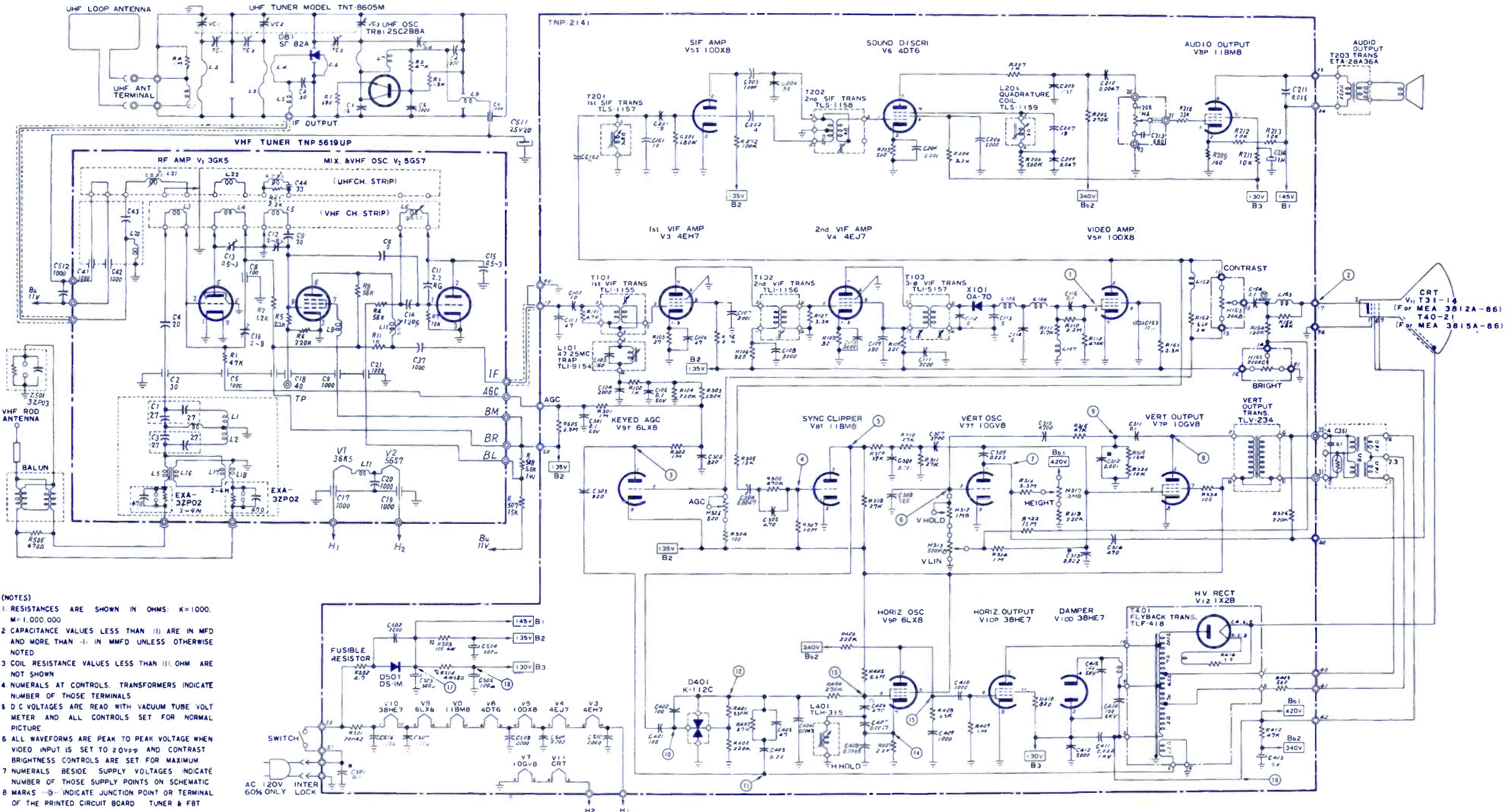
**WIDTH ADJUSTMENT**  
If picture is found too wide, remove the shorting wire across the resistor R200. Picture is still too wide, remove the capacitor C235 also.





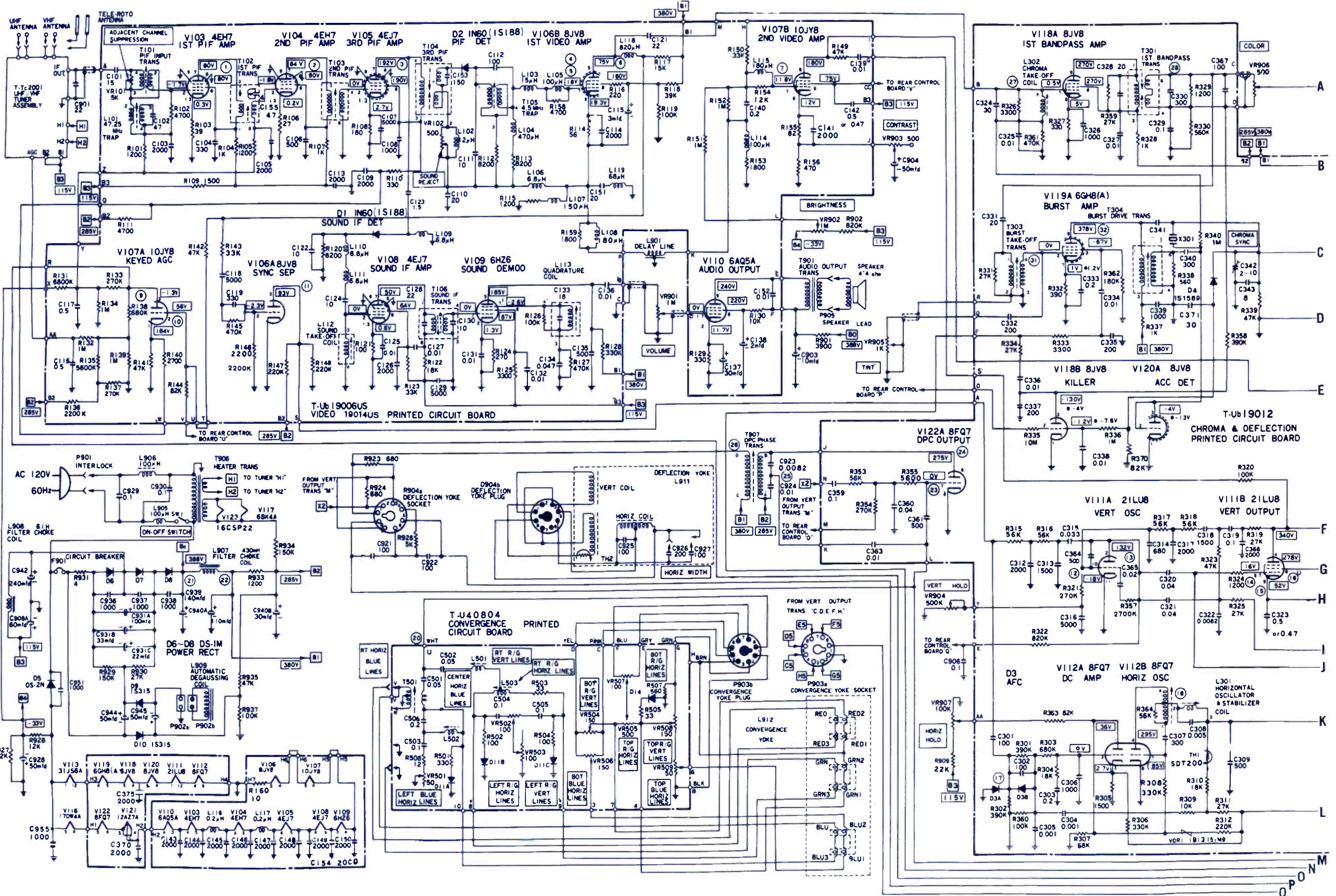
TOP VIEW PRINT BOARD (COMPONENT LOCATION)

SYMBOLS	DESCRIPTION	TRUETONE MODEL PART NO.
R152	metal oxide film 5.6KΩ ±10% 3w	ERC-3PSK562
R153	variable 20K contrast	EVV-M0AL26B24
R155	variable 200K brightness	EVV-M0L26C25
R312	variable 1M vert. hold	EVD-06AS20B16
R313	variable 500K vert. linearity	EVT-V0AA00B55
R317	variable 2M height	EVT-V0AA00B26
R326	variable 500Ω A.G.C.	EVL-S2AA00B52
R502	fusible resistor 4w	ERU-4P4P7
R503	100Ω 20w WW	ERM-4P101
R504	Δ8Ω 4w WW	ERM-4P6B0
R208	control 5W & volume	EVC-80BL26A16
C414	cer 100pF ±10% 5Kv	TCC-D50101K
C415	cer 100pF ±10% 5Kv	TCC-D40101K
C503	elect 300μF	ECE-Q180HBX1A
C505	elect 100μF	ECE-Q180HBX1A
C153	elect 10μF	ELE-Q180HBX1A
T101	1st VIF trans	TL1-1155
T102	2nd VIF trans	TL1-1156
L101	47.25MHz trap coil	TL1-9154
T202	SIF xformer	TL5-1158M
L201	quad coil	TL5-1159
L402	peaking coil	TLM-080-999
L106	peaking coil	TLM-053-999
	a. output trans	TLV-234
	audio output trans	ETA-28A36A
	h. oac coil	TLM-315
	flyback trans	TLY-418
	deflection yoke	TLY-468
	VHF tuner	TNR-56200UP
	UHF tuner	TNT-8605M



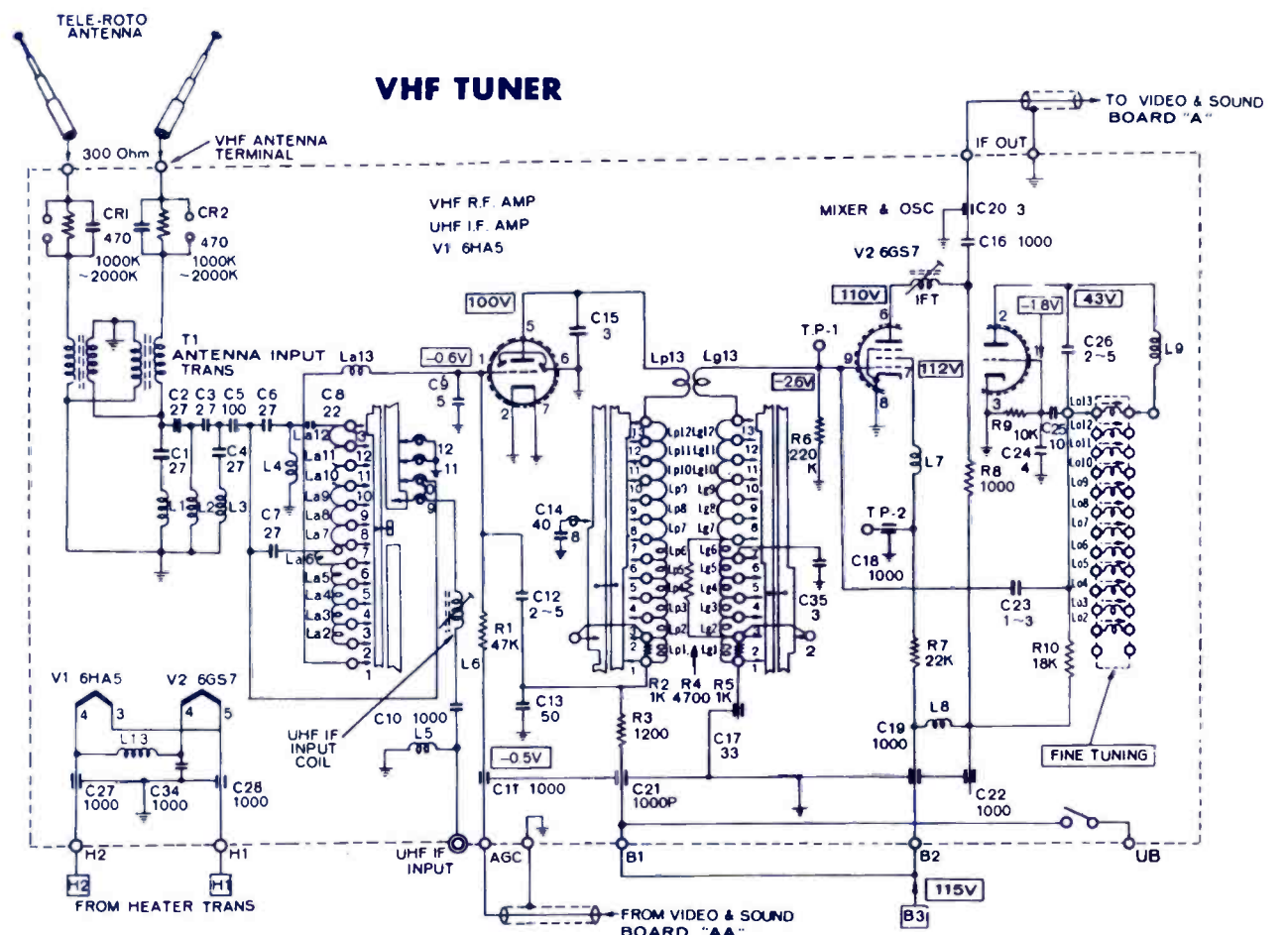
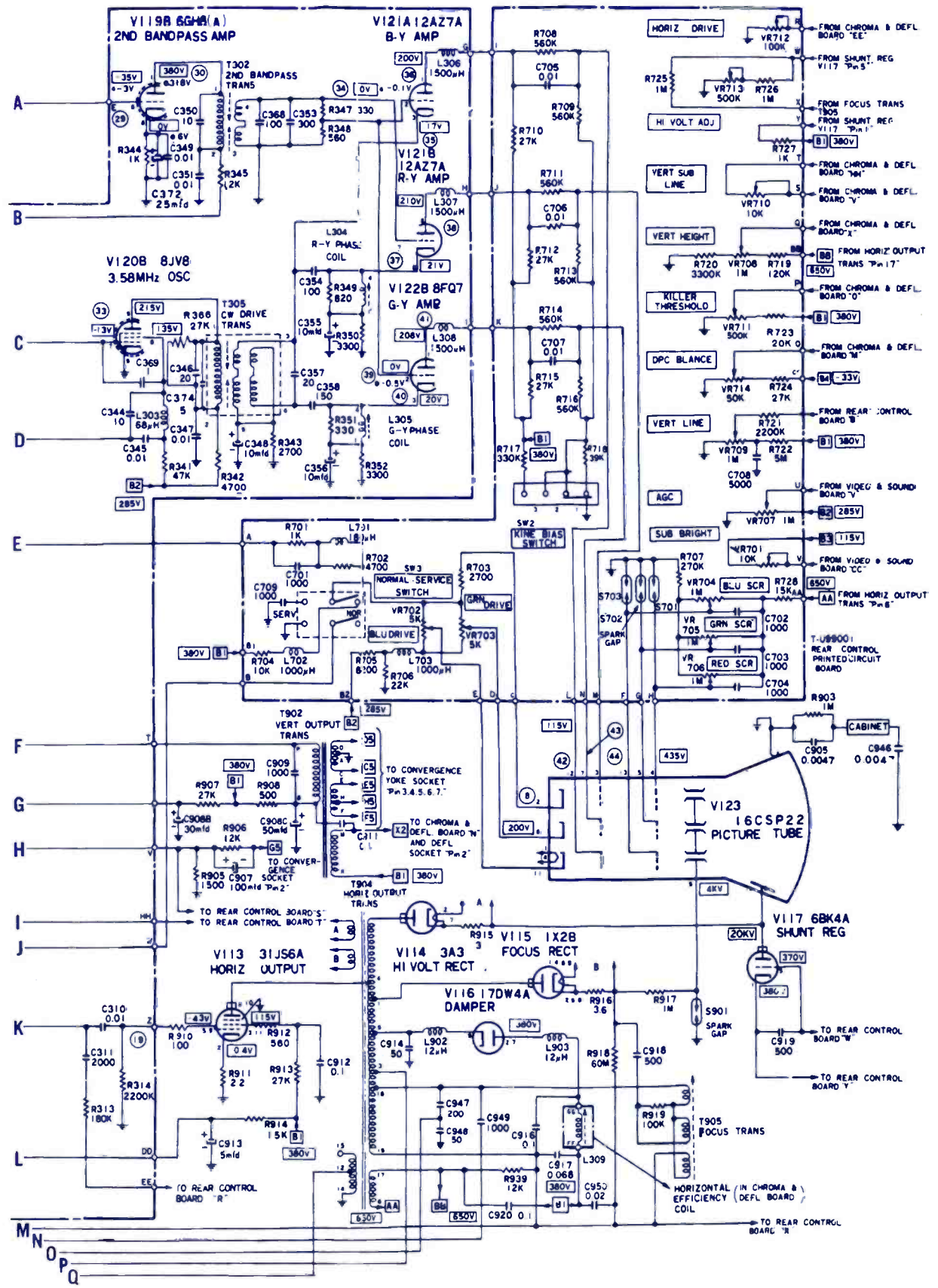
- (NOTES)
- RESISTANCES ARE SHOWN IN OHMS: K=1000, M=1,000,000
  - CAPACITANCE VALUES LESS THAN 100 ARE IN MFD AND MORE THAN 10 ARE IN MMFD UNLESS OTHERWISE NOTED
  - COIL RESISTANCE VALUES LESS THAN 10 OHM ARE NOT SHOWN
  - NUMERALS AT CONTROLS, TRANSFORMERS INDICATE NUMBER OF THOSE TERMINALS
  - D.C. VOLTAGES ARE READ WITH VACUUM TUBE VOLT METER AND ALL CONTROLS SET FOR NORMAL PICTURE
  - ALL WAVEFORMS ARE PEAK TO PEAK VOLTAGE WHEN VIDEO INPUT IS SET TO 2.0V<sub>pp</sub> AND CONTRAST BRIGHTNESS CONTROLS ARE SET FOR MAXIMUM
  - NUMERALS BESIDE SUPPLY VOLTAGES INDICATE NUMBER OF THOSE SUPPLY POINTS ON SCHEMATIC
  - MARKS ⊕ ⊖ INDICATE JUNCTION POINT OR TERMINAL OF THE PRINTED CIRCUIT BOARD







- All resistance values in ohms K=1,000 M=1,000,000
- Voltage reading taken with "VTVM" from point indicated to chassis ground. Tuner on unused channel, Contrast maximum, AGC at full clockwise, other controls at normal.
- All waveforms measured with strong signal input. Contrast set to give normal picture and AGC line operating normally.
- line voltage 120 volts.
- Numbers in circles refer to waveform numbers.
- Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in mfd, and the values more than 1 are in PF.



SYMBOL	DESCRIPTION	TRUETONE PART NO.
T101	PIF input xformer	22-0423
T102	1st PIF xformer	22-0424
T103	2nd PIF xformer	22-0425
T104	3rd PIF xformer	22-0426
T105	4.5MHz trap coil	24-0384
T106	sound IF xformer	22-0427
L101	47.25MHz trap coil	24-0385
L102	peaking coil-F 12µh	24-0386
L103	peaking coil-F 15µh	24-0387
L104	peaking coil 470µh	24-0388
L112	sound takeoff coil	24-0392
L113	quad coil	24-0393
L116, L117	choke coil	24-0394
L118	peaking coil-F 820µh	24-0395
L119	peaking coil 68µh	24-0396
VR101	adj control B-500Ω	14-0191
VR102	adj control B-5K	14-0192
chroma & deflection circuit board assembly		
L301	horiz osc & stabilizer circuit	24-0368
L302	chroma takeoff coil	24-0367
L303	peaking coil-F 68µh 10%	24-0369
L304, L305	phase coil	24-0370
L304	horiz efficiency coil	24-0372
T301	1st bandpass coil	24-0373
T302	2nd bandpass coil	24-0374
T303	burst takeoff xformer	24-0375
T304	burst drive xformer	24-0376
L502	convergence coil center horiz blue lines	24-0381
L503	convergence coil right R/G horiz lines	24-0382
T501	convergence xformer right horiz blue line	24-0383
L701	peaking coil-F 180µh	24-0378
T901	audio output xformer	21-0130
T902	vert output xformer	21-0131
T904	horiz output xformer	36-0008
T905	focus xformer	24-0359
T906	heater xformer	20-0026
T907	phase xformer	24-0360
L901	delay line coil	24-0361
L907	filter choke coil	24-0364
L908	filter choke coil	24-0366
L909	degaussing coil	24-0365
L911	deflection yoke	36-0009
L912	convergence yoke	36-0010
thermistor SDT-200		
16-0029		
D4	diode 1S1589	32-0063
D5 - silicon diode DS-2N		
32-0059		
C914, C948	cer 50pf 10% 3kv	04-0154
C921, C922	cer 100pf 10% 3kv	04-0145
C918	cer 500pf 10% 7kv	04-0155
C947	cer 200pf 20% 2kv	04-0157
C940, C908, C939	elect con 60+ 50+ 30µf 450wv	06-0072
C942	elect con 200+ 40µf 300wv	06-0073
C931	elect con 100+ 33+ 22µf 350wv	06-0074
R117	carbon film 15K 10% 7w	12-0230
voltage dependent resistor		
14-0190		
R704	carbon film 10K 10% 5w	12-0269
R918	carbon film 60M 10% 2w	12-0185
R901	carbon film 3.9K 10% 7w	12-0198
R932	WW 2.2K 5% 8w	13-0017
R933	WW 1.2K 5% 15w	13-0018
R931	WW 4Ω 5% 35w	13-0019
circuit breaker		
18-0006		
control on/off volume		
14-0174		
control color		
14-0175		
control tint		
14-0176		
control contrast		
14-0177		
control bright		
14-0146		
control horiz hold		
14-0178		
control vert hold		
14-0179		



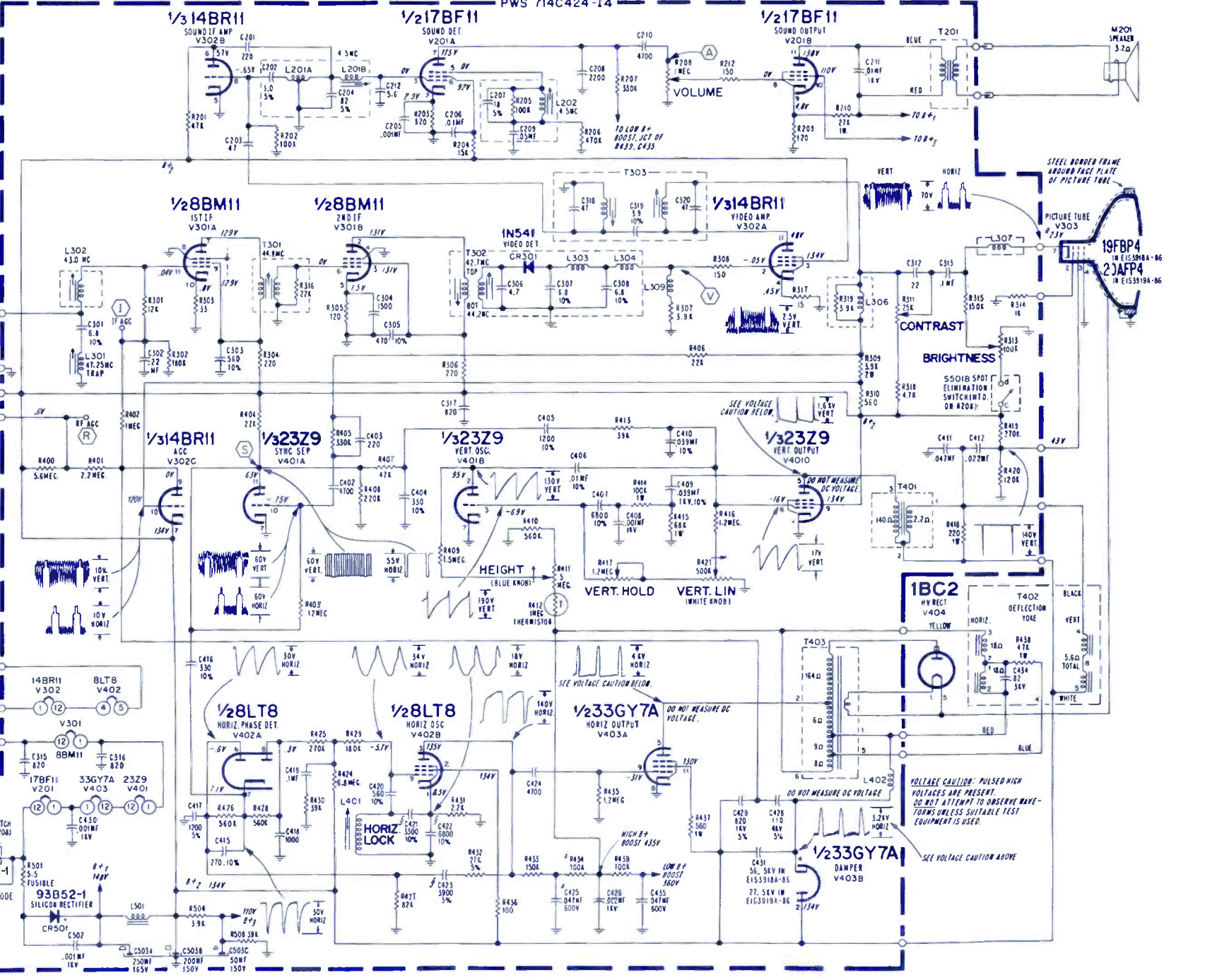
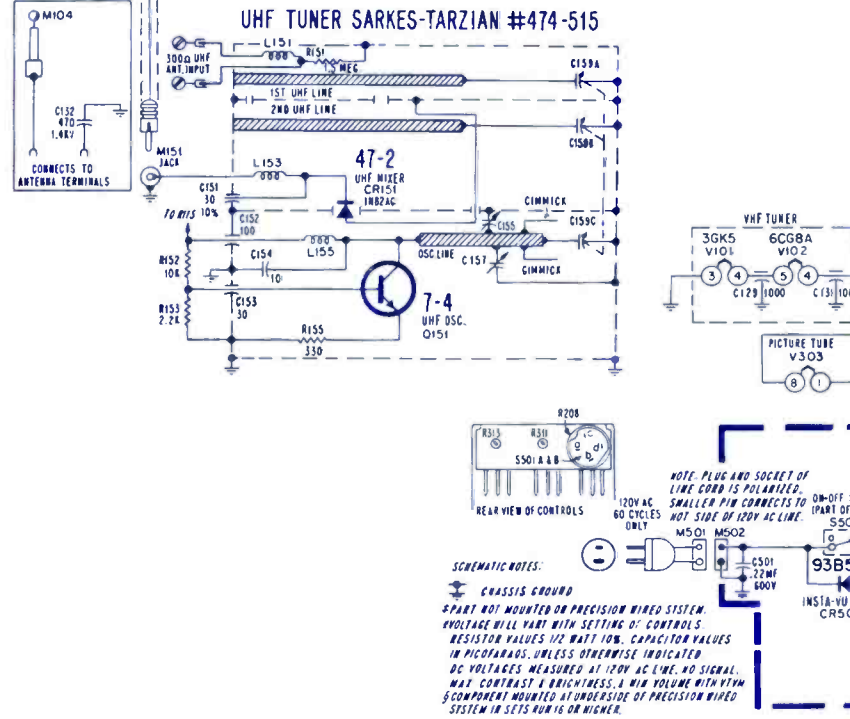
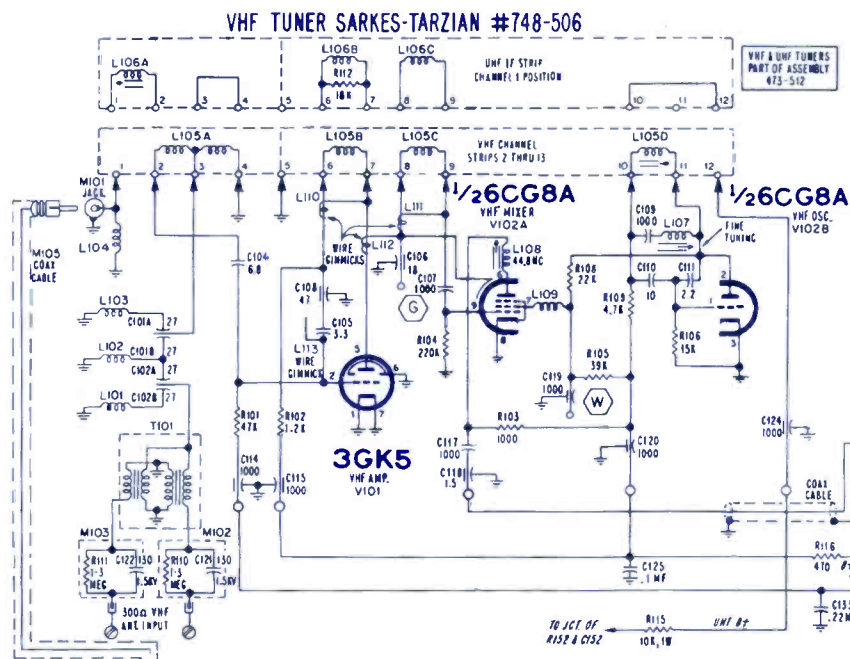
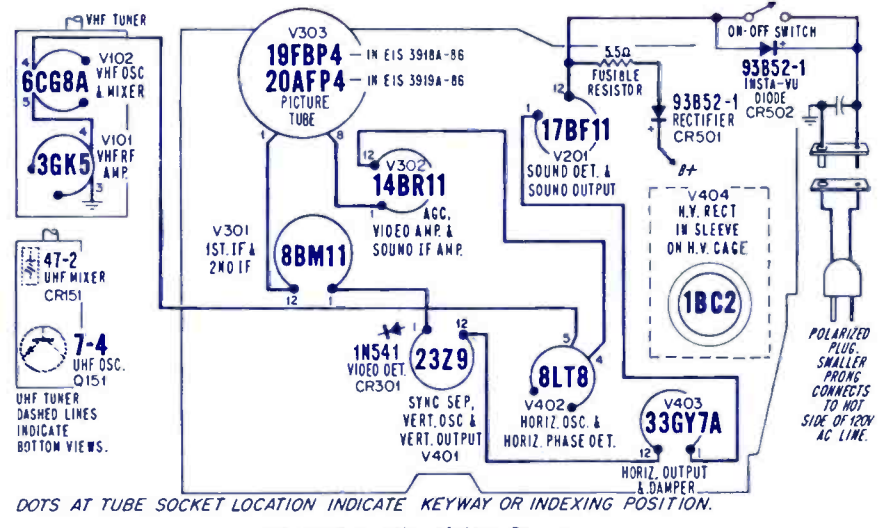
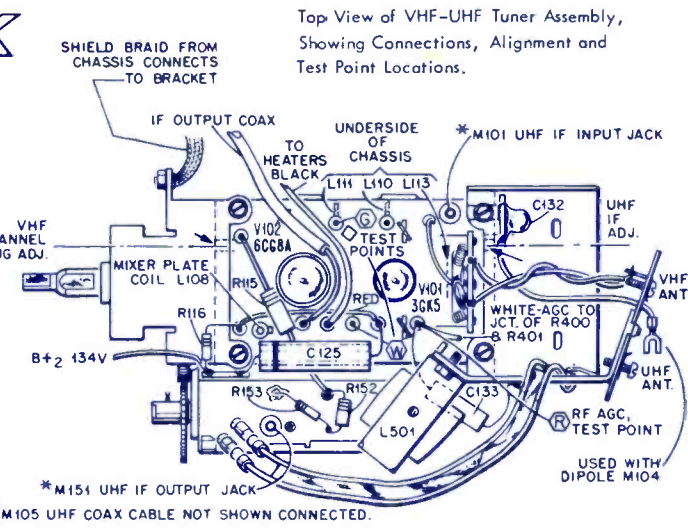
TRUETONE

TV Model  
2DC3918, 19

ELECTRONIC TECHNICIAN / DEALER **TEKFAK**

SYMBOL	DESCRIPTION	TRUETONE PART NO.
R208	1-M volume control & on/off switch S501 also inc. R311 & R313.	75C126-2
R311	25K contrast control	Part of R208
R313	100K bright control	Part of R208
R411	5-M height control	75C101-16
R412	1-M thermistor	61C41-2
R417	1.2M vert hold control	75C100-8
R421	500K vert lin control	75C101-17
R432	27K 1/2 w 5%	60B7-273
R501	5.5Ω fusible	61B48-1
C503A	250μf 165v elect	67D30-12
C503B	200μf 150v elect	67D30-12

C503C	50μf 150v elect	67D30-12
L201 A & B	sound IF & phase shift coil (inc C212).	72C301-4
L202	quad coil (inc C207 & R205)	72C132-82
L301	47.25 MHz trap	72C308-1
L302	IF input coil	72C308-1
L303	5.6m RF coil	73B53-243
L304	RF choke	73C31-3
L401	horiz lock coil	94D17-19
L501	filter choke	74D18-60
T201	audio output xformer	79D124-1
T301	1st IF xformer	72C308-2
T302	2nd IF xformer	72C310-1
T303	3rd IF & sound trap	72C185-7
T401	vert output xformer	79C123-1
T402	deflection yoke assm	700D814-5
T403	horiz output	79D117-5



**SCHEMATIC NOTES:**

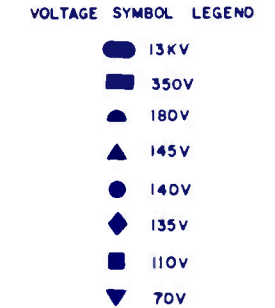
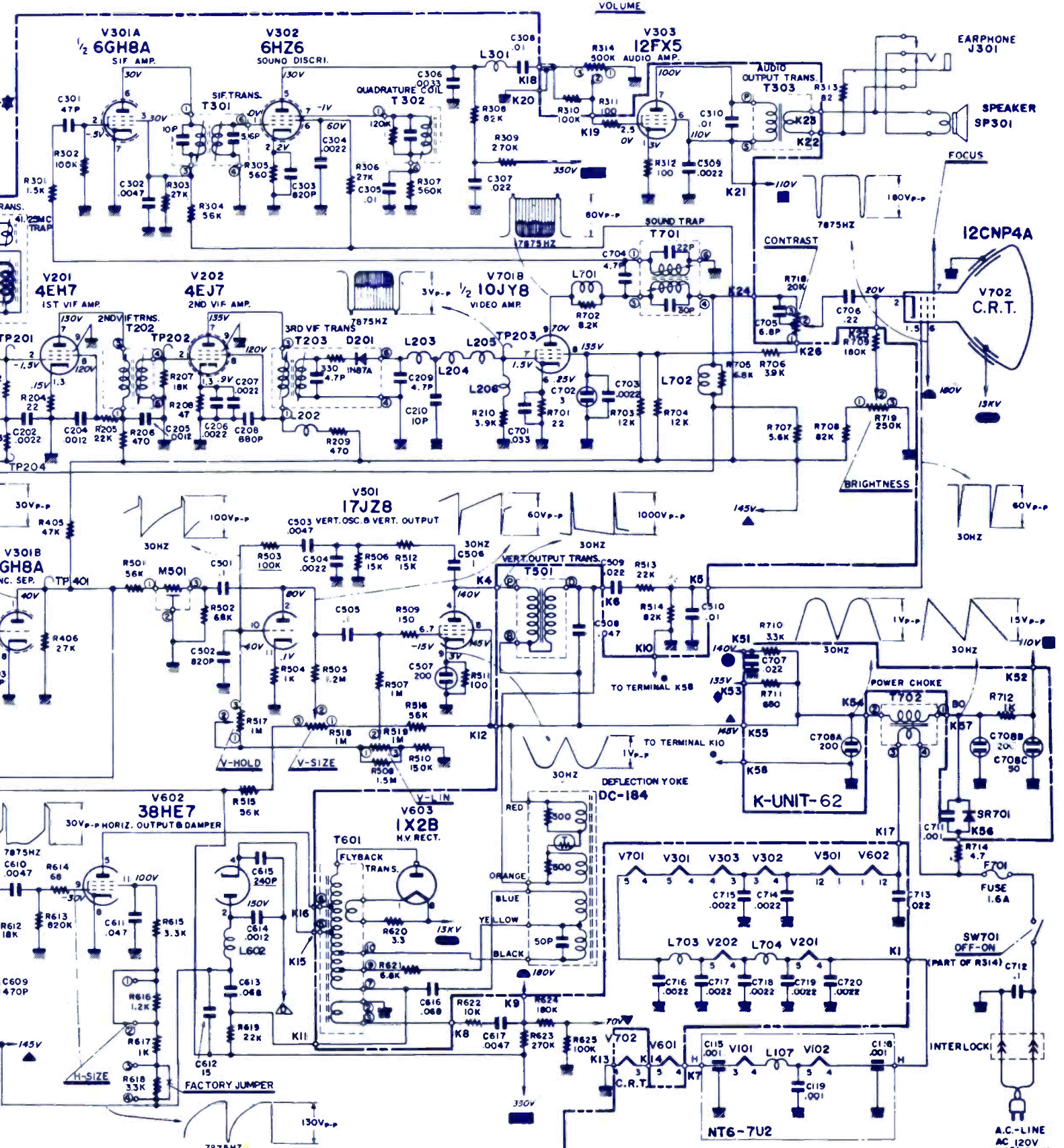
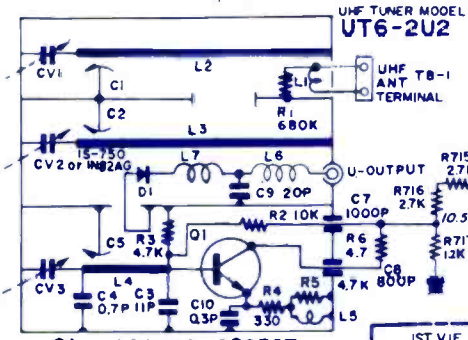
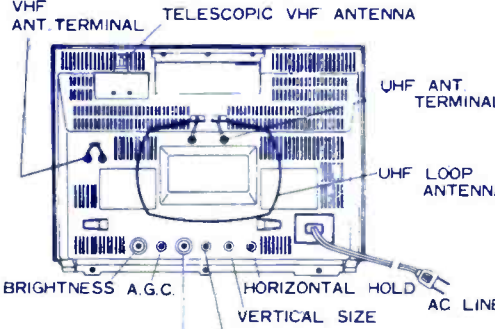
- CHASSIS GROUND
- FRONT NOT MOUNTED OR PRECISION WIRED SYSTEM. VOLTAGE WILL VARY WITH SETTING OF CONTROLS.
- RESISTOR VALUES 1/2 WATT 10%. CAPACITOR VALUES IN MICROFARADS, UNLESS OTHERWISE INDICATED.
- DC VOLTAGES MEASURED AT 120V AC LINE. NO SIGNAL. NAT. CONTRAST & BRIGHTNESS, A MID VOLUME WITH 1/2 WATT DAMPER MOUNTED AT UNDERSIDE OF PRECISION WIRED SYSTEM IN SETS HUR16 OR HIGHER.



R219 - control AGC	15-167009
R314(SW701) - control SW & vol	15-167010
R505 - carbon (Spec.) 1.2M ±10% 1/2w	15-140004
R517 - control vert hold	15-167011
R518 - control vert size	15-167012
R519 - control vert lin	15-167012
R626 - control horiz hold	15-167014

R719 - control, bright	15-167016
C705 - cer 6.6pF ±0.3% 500v	13-130064
C708A - elec 200µF/200	15-138002
C708B - µF/50µF ±20%	15-138002
C708C - 180v	15-138002
C712 - special 0.1µF ±20% u1	13-139002
M501 - copistor	15-139001
L201 - 47.25MHz trap coil	15-094008
L301 - SIP det coil	15-094009
L601 - horiz stabl coil	15-094007
T201 - 1st VIF & 50.35MHz trap trans	15-094003

T203 - VIF det trans	15-094005
L301 - 1st SIF trans	15-094006
T302 - audio output trans	15-097002
T501 - vert output trans	15-097003
T601 - horiz output trans	15-097004
T701 - SIF take-off & 4.5MHz trap trans	15-094002
T702 - power choke trans	15-097005
D201 - diode 1N87A	15-085061
F701 - fuse 1.60	15-204001
def yoke	15-097006
VHF tuner	15-078001
UHF tuner	15-078002



DC VOLTAGE MEASUREMENTS ARE AT NO SIGNAL CONDITION.

K-UNIT-76

NT6-7U2

A.C.-LINE AC 120V 60% ONLY

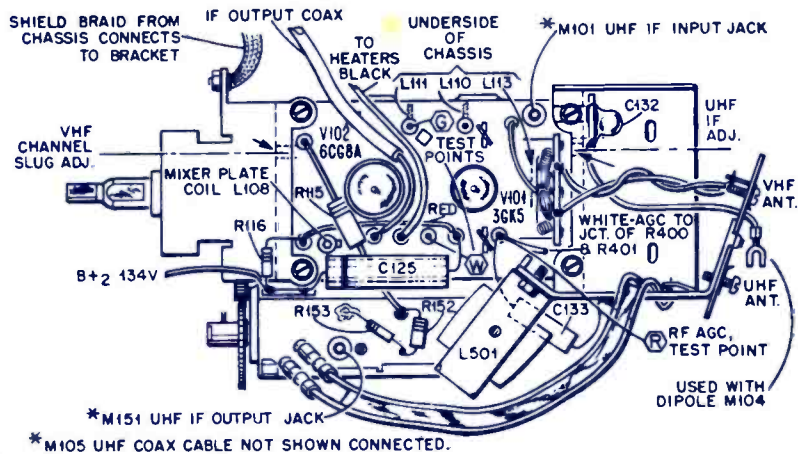


**TRUETONE**  
TV Model 2DC3916

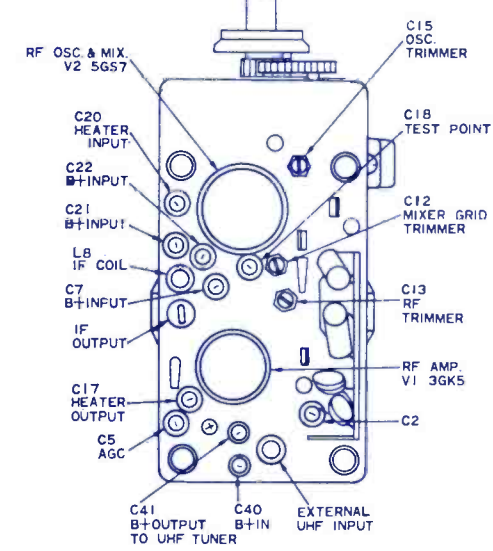
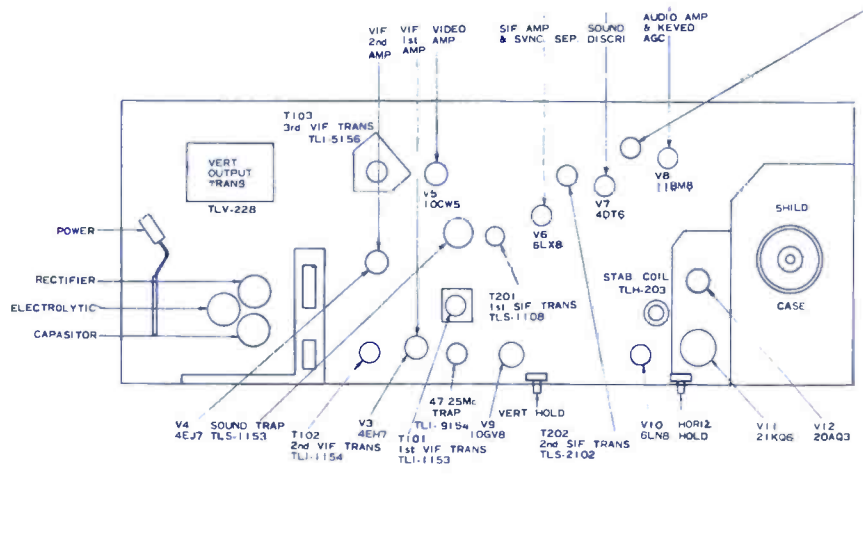
**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

VHF-UHF Tuner Assembly, Showing Connections, Alignment and Test Point Locations.

SYMBOL	DESCRIPTION	TRUETONE PART NO.
R208	1M vol cont on-off switch 5501 inc.	75C126-2
R311 and R313		part of R208
R311	cont cont 25K	part of R208
R313	bright cont 100K	part of R208
R411	5M height cont	74C101-16
R412	1M therm	61C41-2
R417	1.2M vert hold cont	75C100-8
R421	500K vert line cont	75C101-17
R501	5.5Ω fusible	61B48-1
C204	82pf 500v 5% NPO cer disc	65D10-9B
C207	18pf 500v 5% N220 cer disc	65D10-140
C212	5.6pf 500v 5% NPO cer disc	65D10-356
C503A	250μf 165v elec	67D30-12
C503B	200μf 150v elec	67D30-12
C503C	50μf 150v elec	67D30-12
L201A&B	sound if phase shift coil inc C212	72C301-4
L202	quad coil inc C207 & R205	72C132-82
L304	RF choke	73C31-3
L306	video peak wound on R319	73C5-46
L307	video peak	73C5-40
L401	horiz lock coil	94D17-19
L501	filter choke	74D18-60
T201	audio output xformer	79D124-1
T301	1st IF xformer	72C308-2
T302	2nd IF xformer	72C310-1
T303	3rd IF & sound trap	72C185-7
T401	vert output xformer	79C123-1
T402	def yoke assy	700D814-5
T403	horiz output	79D117-5







SYMBOL DESCRIPTION

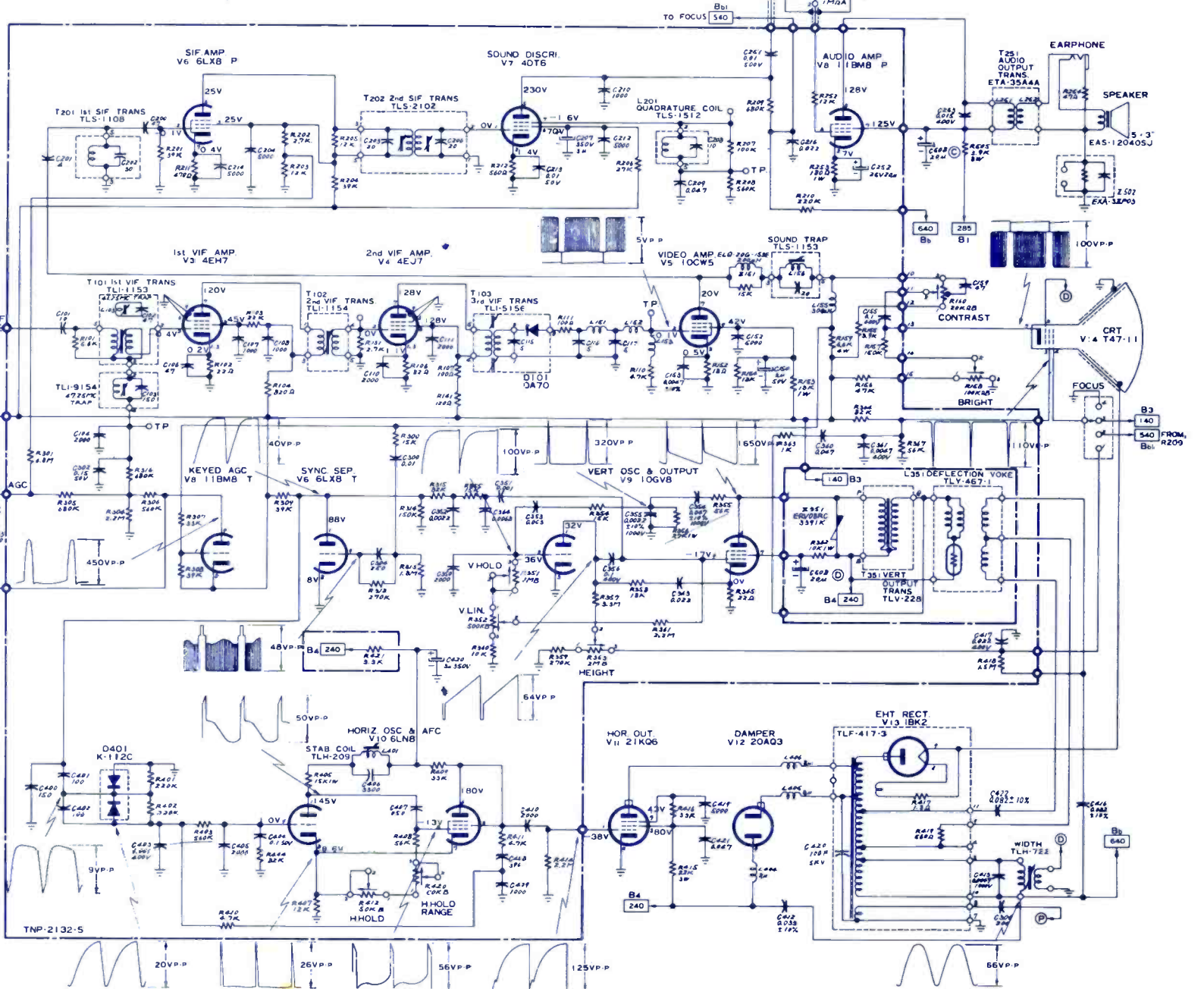
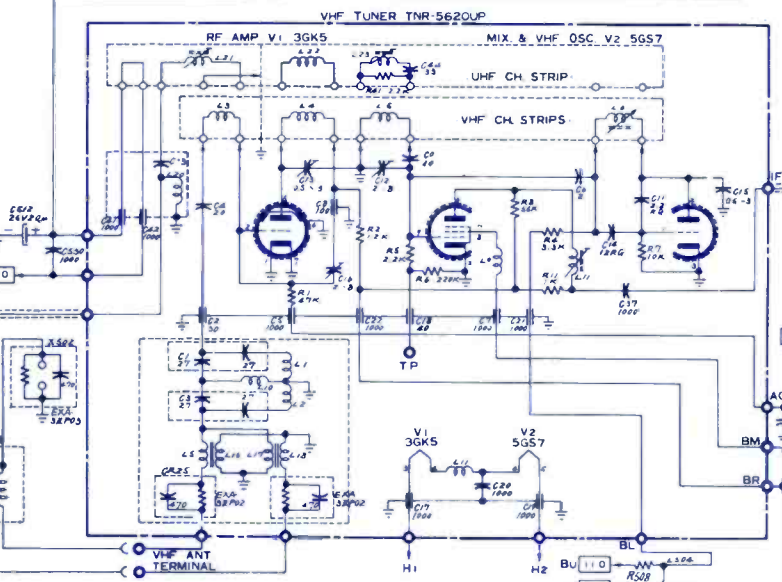
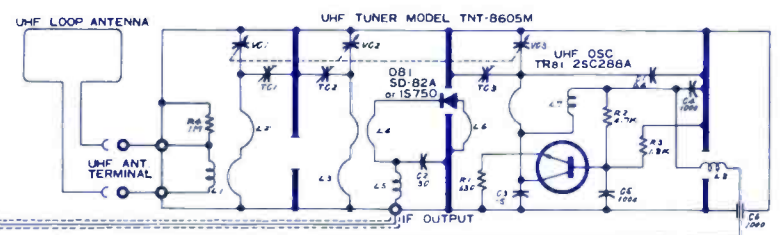
R159 - metal oxide 5.6K ±10% 3w  
R415 - metal oxide 22K ±10% 3w  
R417 - 1.8K ±10% WW 1/2w  
R501 - fusible 4.7Ω 10% 10w  
R502 - 18Ω ±10% 6w  
R503 - 1.8K ±10% 20w WW  
R504 - 220Ω ±10% 20w WW  
R505 - 3.9K ±10% 8w WW  
C207 - elect 3μf 350v  
C413 - .0047μf ±10% 1kv paper  
C503 - elect 200μf 200v  
C507 - elect 200μf 350v  
C508 - elect 150μf ±20% 350v

TRUETONE MODEL PART NO.

ERG-3P5K562  
ERG-3P5K223  
ERW-12K1R8  
ERU-10P4R7  
ERM-6P1B0  
ERM-20H1B2  
ERM-20H221  
ERM-8P392  
ECE-C350V3  
ECN-X10472K  
ECE-M200H200C  
ECE-M350V200A  
ECE-M350VBX2A  
TLI-1153  
TLI-1154  
TLI-1156  
TLI-9154  
TLI-9154  
TLI-1153  
TLI-1108

2nd IF trans TLS-2102  
SIF det trans TLS-1512  
L151 - peaking coil TLQ-100-999  
L152 - peaking coil TLM-053-999  
L153 - peaking coil TLE-351-999  
L501 - peaking coil TPLQ-201D999F  
L405 - peaking coil TLM-080-999  
L401 - horiz stabl coil TLH-209  
horiz width TLH-722  
flyback trans TLF-417-3  
vert output trans TLV-228  
audio output ETA-35A4A  
L502 - filter coil TLP-412  
transistor TVS-25C288A  
deflection yoke TLY-467-1  
R158 - control brightness EVV-M0AL26B15  
R251 - control SW & volume EVC-B08L26A16  
R351 - vert hold control EVD-06AS20B16  
R352 - vert lin control EVT-V0AA00B55  
R353 - vert height control EVT-V0AA00B26  
R412 - horiz hold control EVD-06AS20B54  
R420 - horiz hold range control EVT-V0AA00B54  
R160 - contrast control EVE-DDAL26B24

VHF TUNER



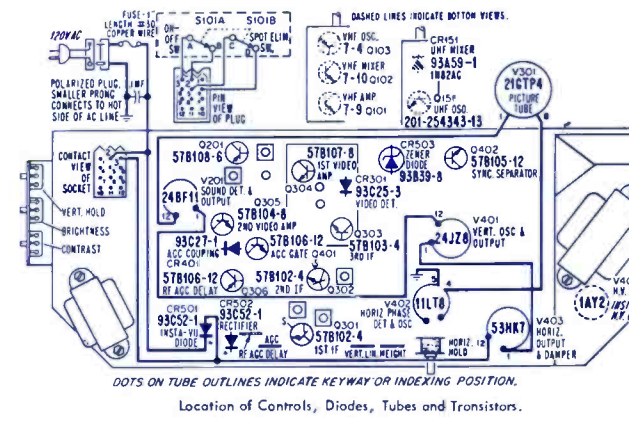
- (NOTES)
1. RESISTANCES ARE SHOWN IN OHMS; K=1,000, M=1,000,000.
  2. CAPACITANCE VALUES LESS THAN ( ) ARE IN MFD AND MORE THAN ( ) IN MFD UNLESS OTHERWISE NOTED.
  3. COIL RESISTANCE VALUES LESS THAN ( ) OHM ARE NOT SHOWN.
  4. NUMERALS AT CONTROLS, TRANSFORMERS INDICATE NUMBER OF THOSE TERMINALS.
  5. D.C. VOLTAGES ARE READ WITH VACUUM TUBE VOLT METER AND ALL CONTROLS SET FOR NORMAL PICTURE; NO SIGNAL INPUT.
  6. ALL WAVEFORMS ARE PEAK TO PEAK VOLTAGE WHEN VIDEO INPUT IS SET TO 5VP-P AND CONTRAST, BRIGHTNESS CONTROLS ARE SET FOR MAXIMUM.
  7. NUMERALS BESIDE SUPPLY VOLTAGES INDICATE NUMBER OF THOSE SUPPLY POINTS ON SCHEMATIC.
  8. MARKS "⊖" INDICATE JUNCTION POINT OR TERMINAL OF THE PRINTED CIRCUIT BOARD, TUNER & FBT.



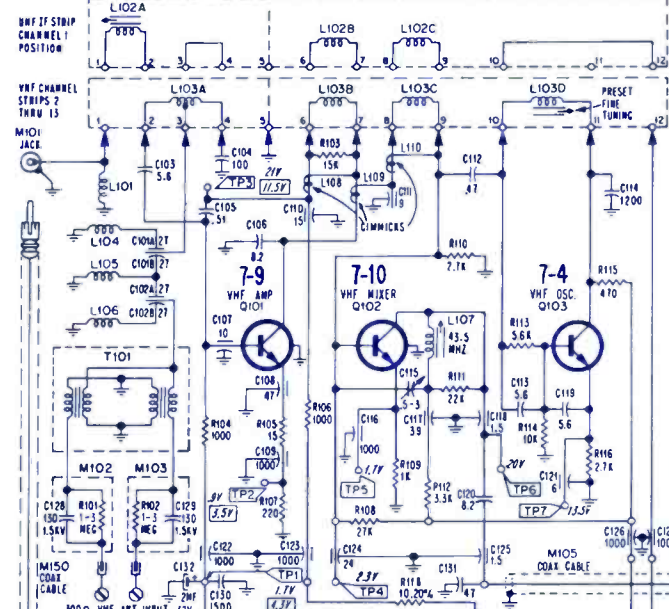
SYMBOL	DESCRIPTION	TRUETONE PART NO.
R117	1M vol control (R117 includes on-off switch S101)	75C44-42
R304	2K 1/2w 5%	6087-202
R328	500Ω contrast control	75D111-12
R329	100K bright control	75C20-184
R336	1K RF AGC control	75C101-32
R403	10K overall AGC control	75C101-18
R419	5M height control	75C101-16
R425	500K vert lin control	75C101-17
R430	1.2M vert hold control	75D20-185
R444	1M thermistor	61C41-2
R501	5Ω 10w 5%	61C20-24
R502	390Ω 5w 10%	61C20-94
R503	900Ω 10w 10%	61C20-88

C132	2μf 12v elect.	67B35-18
C317	1.5pf 5% 50.0v composition	65B40-26
C329	50μf 6v elect.	67C32-35
C429	82pf 3kV cer disc	65D10-13
C431	110pf 10% 5kV cer disc	65D10-249
C433	22pf 10% 5kV 1H5 only	65D10-260
C503A	250μf 165v elect.	67C30-14
C503B	250μf 150v elect.	67C30-14
C503C	20μf 150v elect.	67C30-14
C503D	100μf 50v elect.	67C30-14
L201	sound take off (includes C302)	72C303-13
L202	quad coil (includes R208 & C205)	72C132-82
L301	47.25MHz trap coil	72C316-4
L302	44.5MHz IF coil	72C132-82
L304	choke coil video	73C89-1
L305	4.5MHz sound take off coil	72C303-9

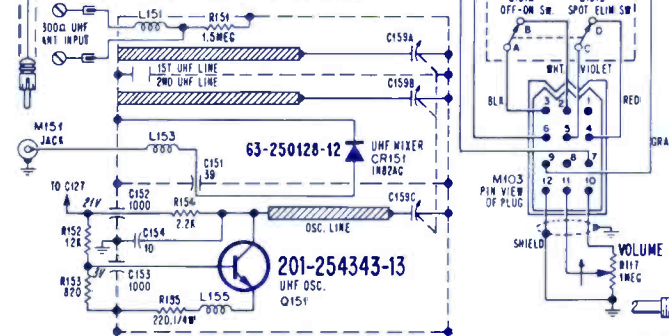
L308	120mh peaking coil	73D5-62
L401	horiz osc coil	94D17-19
L403	choke RF	73B45-239
T201	audio output xfmr	79C124-4
T301A	3rd IF primary coil	72C308-6
T301B	3rd IF secondary coil	72C308-7
T401	vert output xfmr	79D100-19
T402	yoke assembly deflection	70C0C14-3
T403	horiz output xfmr assembly	75C647-8
Q201	sound IF transistor	57B108-6
Q301	1st IF transistor	57B101-4
Q302	2nd IF transistor	57B102-4
Q303	3rd IF transistor	57B103-4
Q304	1st video transistor	57D107-8
Q305	2nd video transistor	57B104-8
Q306	RF delay transistor	57B106-12
Q401	AGC transistor	57B106-12
Q402	sync separator transistor	57B105-12
CR301	video detector diode	93C25-3
CR302	blanking diode	93C27-1
CR401	AGC pulse diode	93C27-1
CR501	insto-vu diode	93C52-1
CR502	rectifier diode	93C52-1
CR503	zener diode	93C39-8
M503	circuit breaker 2.2a	84B17-4
	VHF tuner	744-515
	UHF tuner	228-110



**VHF TUNER SARKES-TARZIAN #744-515**



**UHF TUNER G.I. #228-110**



**SCHEMATIC NOTES:**

1. CHASSIS GROUND: RESISTOR VALUES 1/2 WATT, 10% AND CAPACITOR VALUES IN PICOFARADS UNLESS OTHERWISE INDICATED. RESISTANCE VALUES OF COILS LESS THAN 1Ω IS NOT SHOWN. Hz INDICATES CYCLES PER SECOND.

2. WAVEFORMS AND P-P VOLTAGES MAY VARY, DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHEN TWO DC VOLTAGES ARE INDICATED, POLARITY TAKEN WITH TV SIGNAL IS SHOWN IN BLACK. READING TAKEN WITH NO SIGNAL IS SHOWN WITHOUT BLACK.

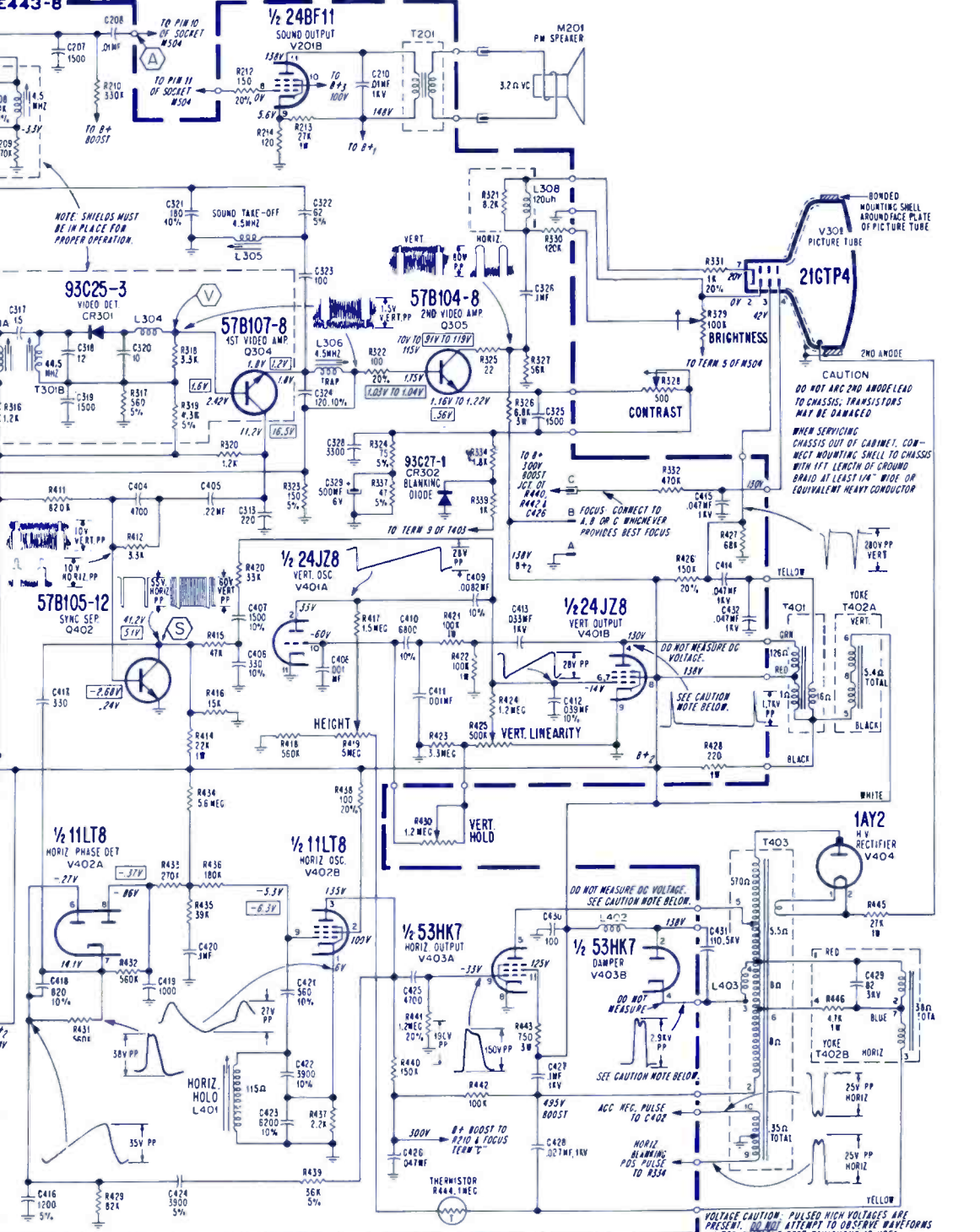
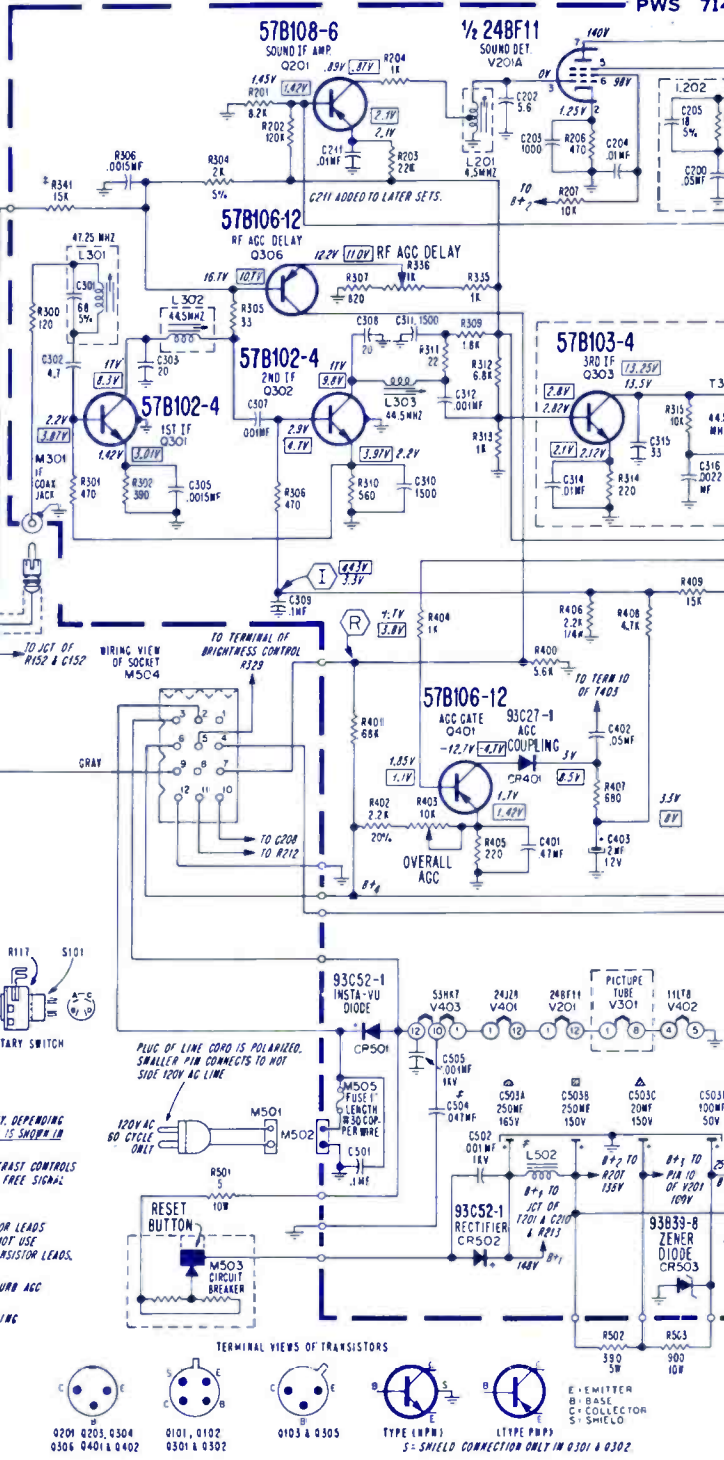
3. OFF-SIGNAL VOLTAGES TAKEN ON UNBIASED VHF CHANNEL WITH ANT TERMINALS SHORTED. VOLUME CONTROL AT MIN. BRIGHTNESS AND CONTRAST CONTROLS AT MAX. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL. PRODUCING: 4 TO 5 VOLTS AGC AT TEST POINT B. CONTRAST, BRIGHTNESS CONTROLS SET FOR NORMAL PICTURE.

4. TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC AND ANODE LEAD TO CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS, TUBES OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT USE AN ORDINARY CHARACTER FOR RESISTANCE MEASUREMENT. USE VTM ON X100 RANGE OR HIGHER. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS.

5. AGC CAUTION: DO NOT DISTURB FACTORY SETTING OF AGC CONTROL. IF AGC ADJUSTMENT IS REQUIRED, REFER TO SERVICE NOTES. IF NECESSARY TO DISTURB AGC ADJUSTMENT, MARK ROTARY POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.

6. ALL WAVEFORMS TAKEN WITH A WIDE-BAND OSCILLOSCOPE. SOME DEGRADATION WILL BE NOTICED IN HORIZ. WAVEFORMS WHEN USING EQUIPMENT WITH NARROW BANDPASS.

7. COMPONENT NOT MOUNTED ON PRECISION WIRE SYSTEM.

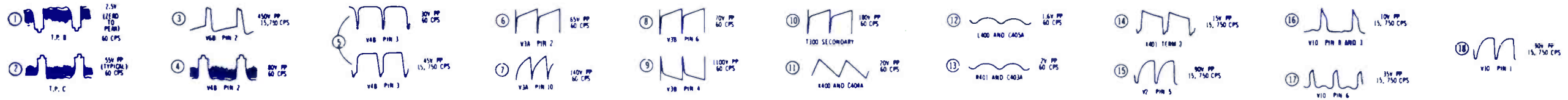




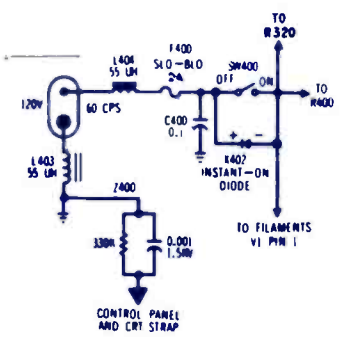
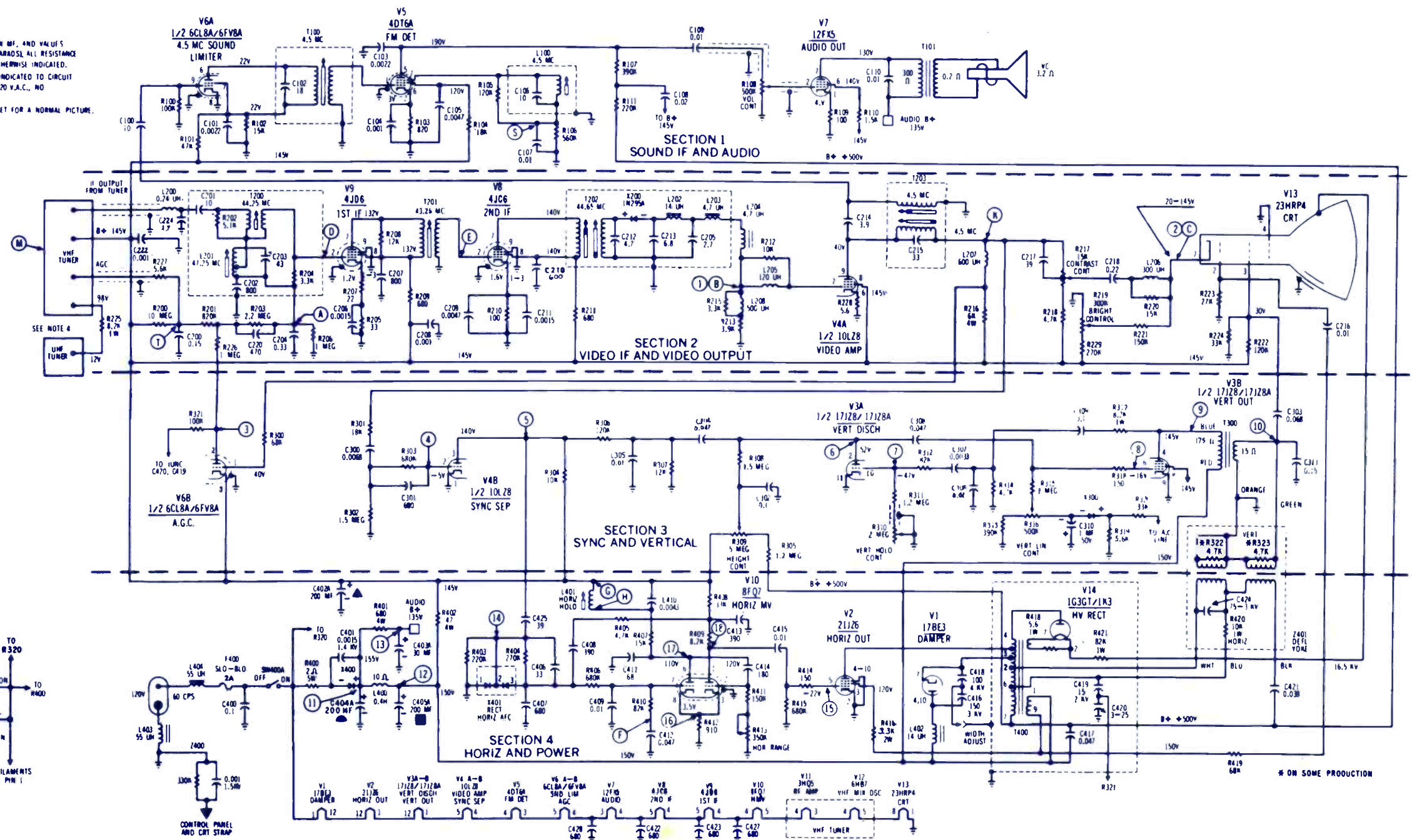
SYMBOL	DESCRIPTION	WESTINGHOUSE
<b>CAPACITORS</b>		
C203	43pf 500v cer NPO, 5%	215V134A30
C205	2.7pf 500v cer NPO	215V122A79
C214	3.9pf 500v fixed composition	217V013A99
C402A	200µf 175v elect	
C403A	30µf 175v elect	
C404A	200µf 175v elect	218V054H30
C405A	200µf 175v elect	
C416	150pf 3kv cer	215V300H85
C418	100pf 4kv cer	215V318H11
C419	15pf 2kv cer	215V431A50
E420	3.25pf AGC trimmer	217V311H02
C421	0.39pf 400v mylar	210V116H25
C424	75pf 3kv part of yoke	215V300H91
C429	120pf 500v poly	210V290H11
<b>RESISTORS</b>		
R216	6k, 4w WW	251V014H54
R400	21Ω 5w 10% WW	251V033H14

R401	680Ω 4w 10% WW	251V020H78
R402	47Ω 4w 10% WW	251V020H79
R412	910Ω 5w 5% carbon	250V219A11
R416	3.3k 2w 10% carbon	250V423A32
R418	5.6k 1w 10% WW	251V005A69
SW400	switch, on-off, incl. R108&R219	270V166H04
R108	500k vol control incl. SW400 & R219	270V166H04
R217	15k contrast control	270V159H12
R219	300k, bright control incl. 400&R108	270V166H04
R309	5M, height control incl. R316, R413	230V065H06
R310	2M, vert hold control	270V159H10
R316	500k, vert lin control incl. R309, R413	270V155H05
R413	350k, horiz pinge control R309, R316	270V155H05
<b>FORMERS &amp; COILS</b>		
L100	4.5MHz, quad, adjustable, coil	230V031H01
L200	24µh, IF link, coil	230V065H06
L201	47.25MHz, adjustable coil	230V076H01
L202	14µh, coil	230V130H01
L203	4.7µh, coil	230V130H01

L206	300µh, coil	230V141H08
L207	600µh, coil	230V141H02
L400	375ma choke 4h, 10Ω reactor	430V161B01
L401	horiz hold, less shaft, adjustable coil	230V144H01
L403	55µh, coil	230V125H01
T100	4.5MHz, sound limiter adjustable, xformer	235V046H01
T101	audio output, xformer	430V150H02
T200	IF input 44.25MHz, xformer	235V049H02
T201	43.25MHz 1st IF xformer	235V048H04
T202	44.65MHz 2nd IF xformer	235V049H06
T203	4.5MHz trap & sound xformer	235V076H04
T300	vert output, xformer	430V039H11
T400	horiz output, xformer	492V020H03
Z401	yoke 114" deflection	490V017C01
F400	2A, slo-blo, fuse	758V001H09
X401	AF, dual sel, diode	296V004H01
X402	silicon, instant on, diode	295V006H03
Z400	resistor-capacitor package circuit	219V004H03
VHF TUNER		470V177D01
UHF TUNER		472V060D01

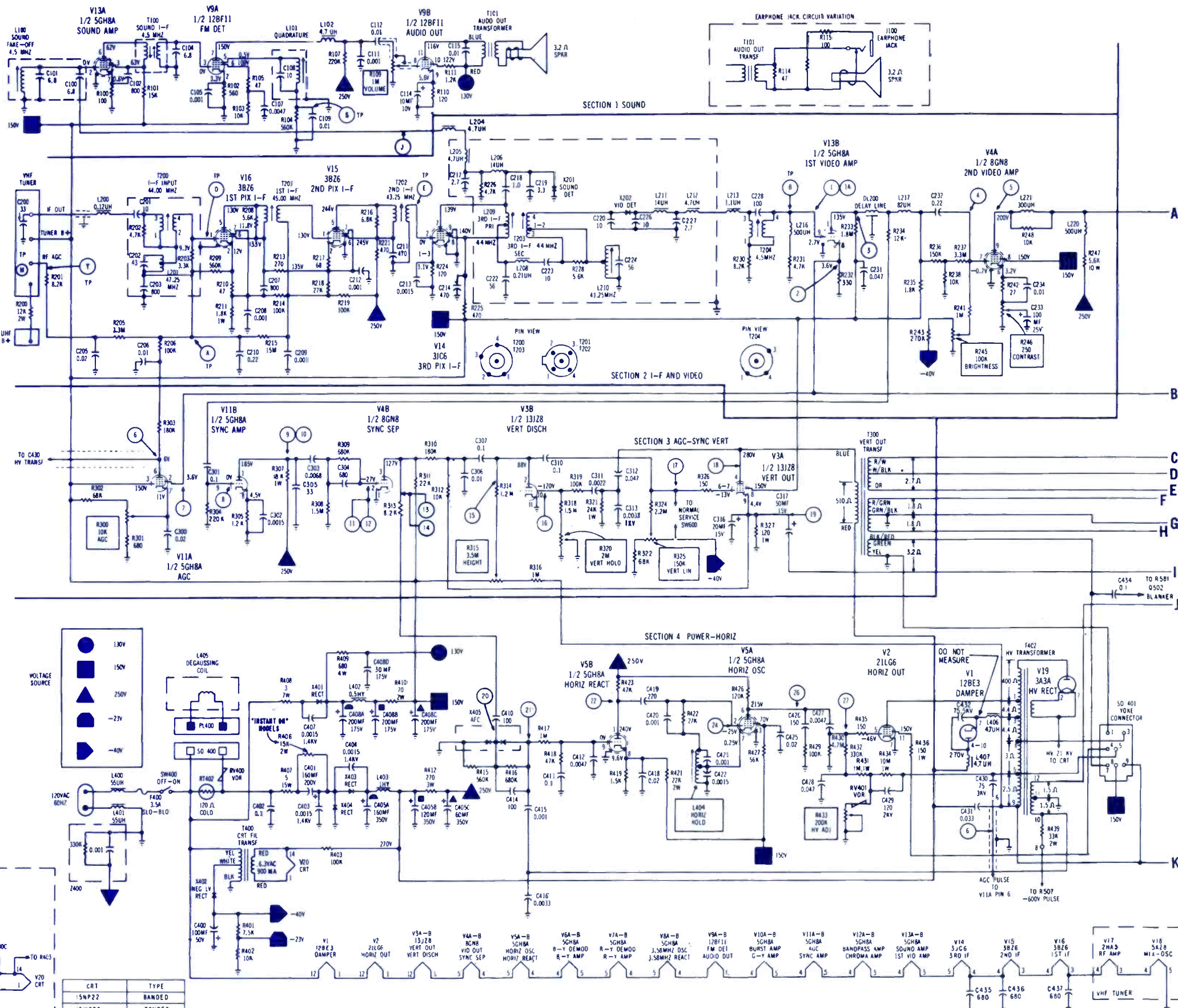


**NOTE:**  
1. ALL CAPACITOR VALUES LESS THAN 1 ARE IN PF, AND VALUES GREATER THAN 1 ARE IN PP (MICROMICROFARADS). ALL RESISTANCE VALUES ARE IN OHMS, 0.5 WATT UNLESS OTHERWISE INDICATED.  
2. DC VOLTAGES ARE MEASURED FROM POINT INDICATED TO CIRCUIT GROUND WITH A VTVM. LINE VOLTAGE AT 120 V.A.C., NO SIGNAL APPLIED.  
3. WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE.



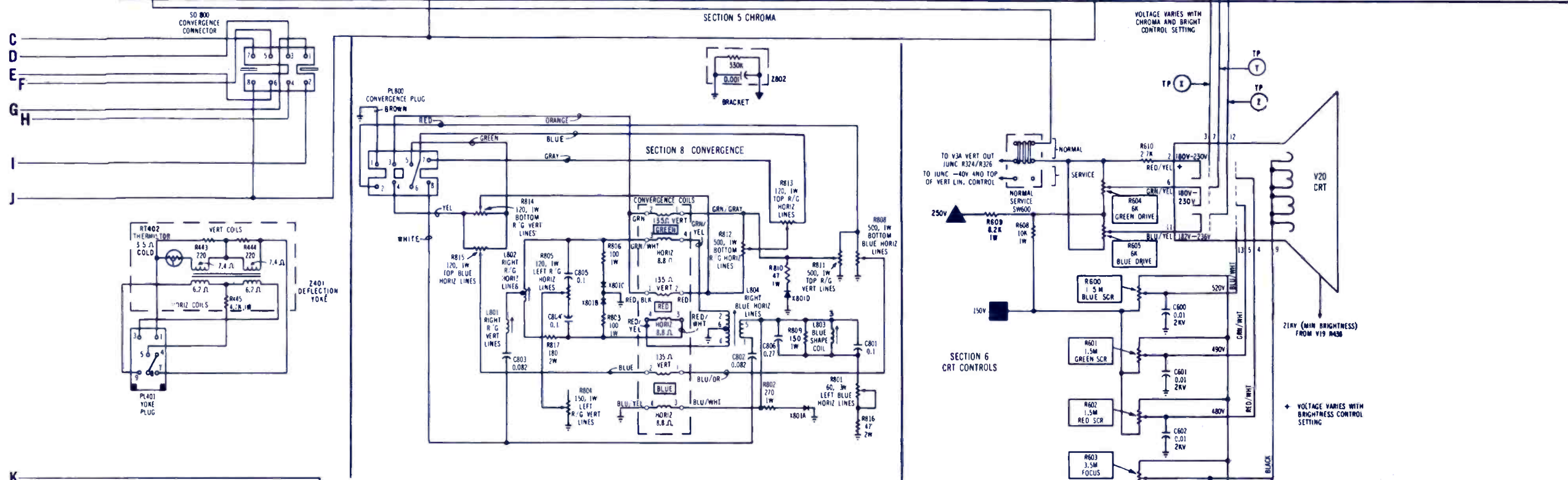
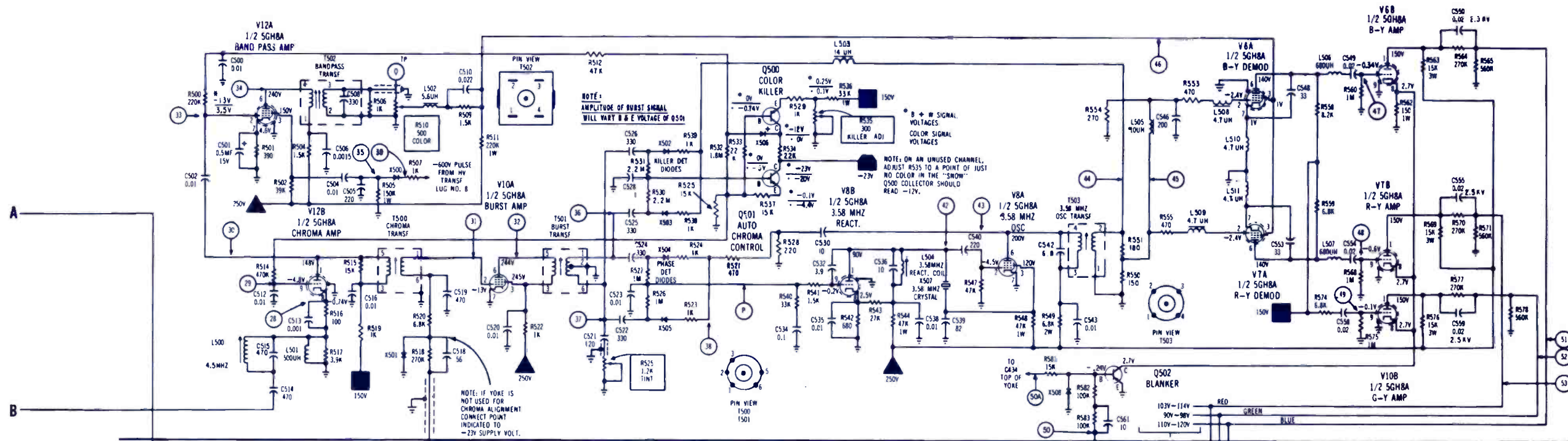


SYMBOL	DESCRIPTION	WESTINGHOUSE PART NO.
	tuner, VHF	470V190D01
	tuner, UHF	472V060D02
C429	120pf 2kv cer N2200	215V431A21
C432	75pf 5kv cer N2200	215V300H74
C522	330pf 500v mica polystyrene	213V186B01
C524	330pf 500v mica polystyrene	213V186B01
C525	330pf 500v mica polystyrene	213V186B01
C526	330pf 500v mica polystyrene	213V186B01
R226	4.7K 5%	250V214A72
R230	8.2K 5%	250V218A22
R231	4.7K 5%	250V214A72
R247	5.6K 10w	251V014H78
R321	24K 1w 5%	250V312A43
R407	5 15w	251V028H11
R408	3 7w WW	251V033H04
R419	1.5K 5%	258V211A52
R558	8.2K 5%	250V218A22
R559	6.8K 5%	250V216A82
DL200	delay line	753V044C01
L100	coil adj sound take-off 4.5MHz	230V0031H06
L101	coil adj quad 4.5MHz	230V0031H06
L102	reactor 4.7uH	230V130H01
L201	coil adj 47.25MHz trap	230V076H01
L209	coil adj 3rd IF primary	230V205C01
L210	coil adj 41.25MHz trap	230V076H01
L403	choke, filter 1h	430V121H02
L404	coil adj horiz hold	230V183B01
L501	coil fixed 500uH	230V141H04
L502	reactor 5.6uH	230V141H15
L504	coil adj reactance 3.58MHz	230V192B01
L802	coil adj right red/grn horiz lines	230V184B01
L803	coil adj blue shape	230V186B01
T100	x-former adj sound IF 4.5MHz	235V141B01
T101	x-former audio out	430V184B01
T201	x-former 1st IF 45.00MHz	235V048H01
T204	x-former adj 4.5MHz	235B145B01
T300	x-former vert output	430V185C01
T400	x-former CRT filament	410V081B01
T402	x-former high voltage	493V024C01
T500	x-former chromo	235V143B02
T501	x-former burst	235V143B02
T502	x-former bandpass	235V142C01
T503	x-former 3.58MHz osc	235V144B01
Z401	yoke deflection	490V027C01
R109	control vol 1M inc SW400	270V146H08
R109	control vol 1M inc SW400A,B,C	270V147B09
inst-an models		
R245	control bright 100K	270V198C11
R246	control contr 250K	270V198C12
R300	control AGC adj 10K	270V130H14
R315	control height 3.5M	270V130H17
R320	control vert hold 2M	270V198C07
R325	control vert lin 150K	270V130H18
R433	control HV adj 200K	270V130H19
R510	control color 500K	270V198C09
R525	control tint 1.2K	270V198C10
R535	control color killer adj 300K	270V130H13
R600	control blue screen 1.5M	270V130H15
R603	control locus 3.5M	270V130H17
R801	control left blue horiz lin 60K 3W	270V190D05
R804	control left rd/grn vert lin 150K 1w WW	270V190D03
R805	control left rd/grn horiz lin 120K 1w WW	270V190D02
R808	control bottom blue horiz lin 500 1w	270V190D04
RT402	thermistor 120K cold auto deg	259V022B01
RT403	thermistor 3.5K cold	(part of yoke)
Z400	iso network R 330K C 0.01uF	219V064B01
ZB02	iso network R 330K C 0.01uF	219V064B01
RV400	varistor auto deg	259V017C02
RV401	varistor horiz out grid	259V015H01
X500	diode bandpass gate	295V028C04
X501	diode burst amp	295V028C04
X502	diode killer detector	296V024B02
X503	diode killer detector	296V024B02
X504	diode phase detector	296V024B02
X505	diode phase detector	296V024B02
X506	diode killer gate	296V024B01
Q500	tran color killer PNP 2N4916	297V073C04
Q501	trans auto chroma control PNP 2N4916	297V073C04
Q502	trans blanker NPN 2N3567	297V074C06
SW400	switch-off-on (P/o val cont)	270V146H08
SW400	switch-off-on inst on models (P/o val cont)	270V146H09
C405A	elect 160uF 350v	218V053H28
C405B	elect 120uF 350v	218V053H28
C405C	elect 60uF 350v	218V053H28
C408A	elect 200uF 175v	218V054H30
C408B	elect 200uF 175v	218V054H30
C408C	elect 200uF 175v	218V054H30
C408D	elect 30uF 175v	218V054H30



CRT	TYPE
15NP22	BANDED
15WP22	BONDED





"V" = VERTICAL RATE  
"H" = HORIZONTAL RATE

- NOTES:**
- ALL CAPACITANCE VALUES LESS THAN 1 (ONE) ARE IN MICROFARADS. VALUES GREATER THAN 1 (ONE) ARE IN PF (PICOFARADS). ALL RESISTANCE VALUES ARE IN OHMS, 0.5M UNLESS OTHERWISE SPECIFIED.
  - DC VOLTAGES ARE MEASURED FROM POINTS INDICATED TO CIRCUIT GROUND USING A VTVM. SIGNAL APPLIED, AC LINE VOLTAGE SET AT 120V, 60HZ. CHROMA CIRCUIT VOLTAGES TAKEN USING A B+R 1245 COLOR BAR GENERATOR.
  - CIRCLED LETTERS INDICATE TEST POINTS. CIRCLED NUMBERS INDICATE WAVEFORMS. ⊕ INDICATES CIRCUIT GROUND. ⊖ INDICATES COLD GROUND. CAUTION: THESE GROUNDS MUST NEVER BE CONNECTED TO EACH OTHER UNDER ANY CIRCUMSTANCES.



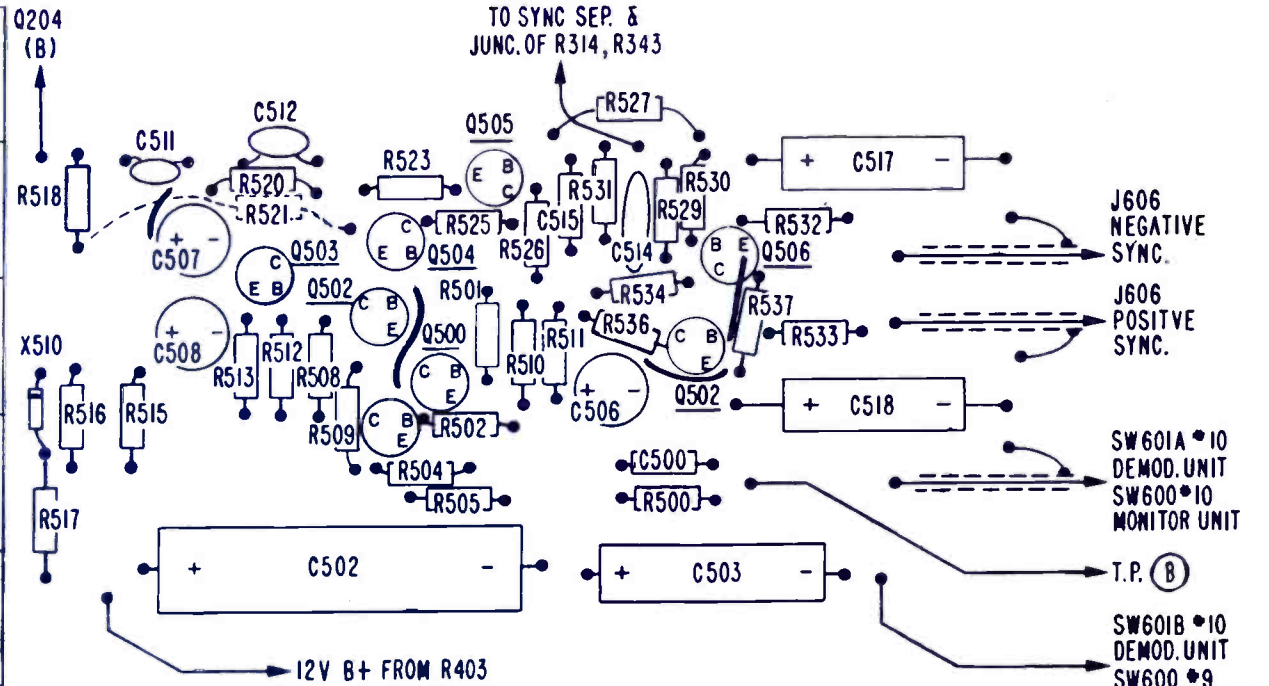
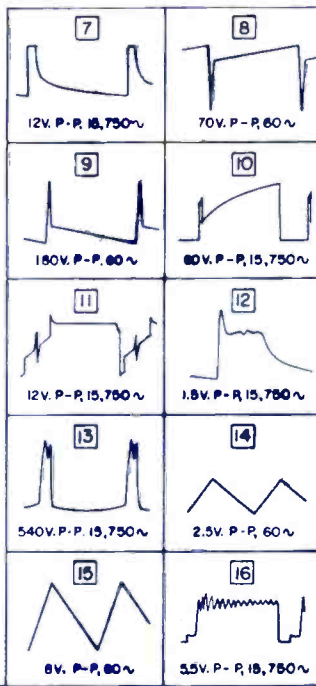
**WESTINGHOUSE**

TV Chassis V2664

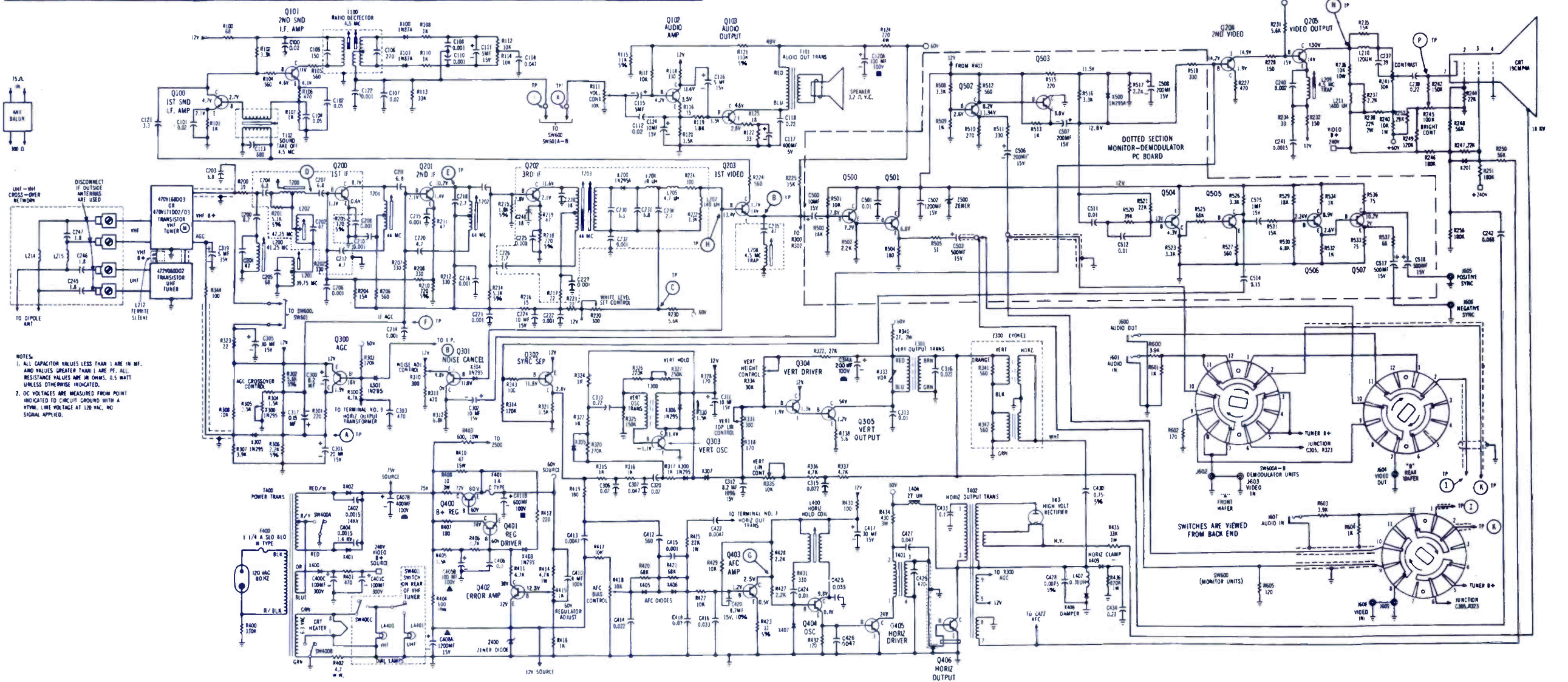
**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

SYMBOLS	DESCRIPTION	WESTINGHOUSE PART NO.
R124	220Ω 1/4W 10% WW	251V02H59
R333	VDR, vertical pulse limiting	259V017C03
R404	400Ω 1/4W 10% WW	251V014H57
R410	47Ω 1/4W 10%	251V033H19
L200	41.25MHz trap coil, adj.	230V151C02
L202	47.25MHz trap coil, adj.	230V130H01
L205	4.7μH, det. filter coil	230V031H03
L208	4.5MHz trap coil, adj.	230V152A01
L214	0.13μH, ant. network coil	230V095H04
L400	topped, horiz. osc. coil, adj.	230V153B01
L402	0.31μH, horiz. choke coil, adj.	230V065H04
L404	27μH, horiz. B+ coil	230V095H04
T100	x-former, ratio detector	235V140C01
T101	x-former, audio output	430V156H01
T102	x-former, adjustable, sound takeoff	235V046C02
T200	x-former, adj. IF input	235V139C01
T201	x-former, adj. 1st IF, 44MHz	235V048H05
T203	x-former, adj. 3rd IF, 44MHz	235V138C01
T300	x-former, vert. oscillator	430V163B01
T301	x-former, vert. output	430V164C01
T400	x-former, power	410V066C01
T401	x-former, horiz. driver	430V162B01
T402	x-former, horiz. output	493V022C01
Z300	yoke deflection, 114	490V021C01
X300	diode, 1N295, AGC decouple	296V002H07

X301	diode, 1N295, AGC base	296V002H07
X304	diode, 1N295, noise cancel base	296V002H07
X305	diode, silicon, vert. sync. gate	296V020B01
X306	diode, silicon, vert. asc. clamp	296V020B01
X307	diode, silicon, vert. discharge	296V020B01
X308	diode, 1N295, vert. sync. decouple	296V002H07
X407	diode, silicon, HMV circuit	296V020B01
X408	diode, silicon, clamper	295V029C02
R111	volume control, 10K, incl. sw400A-B-C	270V146H04
R220	white level control, 300Ω	270V174C01
R241	contrast control, 30K	270V175C01
R245	bright control, 100K	270V175C02
R305	AGC crossover control, 2.5K	270V174C02
R310	noise level control, 300Ω	270V174C01
R327	vertical hold control, 250K	270V175C03
R331	vertical lin. top control, 300Ω	270V173C02
R334	height control, 30K	270V174C03
R335	vert. lin. control, 10K	270V174C04
R415	regulator control, 1K	270V130H06
R418	AFC bias control, 10K	270V174C03
C117	400μF, 5V	218V012H43
C120A	100μF, 100V	218V053H23
C314A	200μF, 100V	
C408A	1200μF, 15V	
C400C	100μF, 300V	218V052H19
C401C	100μF, 300V	
C405B	100μF, 100V	218V053H22
C407B	400μF, 100V	
C411B	600μF, 100V	
C502	1200μF, 15V	218V056H09



Monitor - Demodulator PC Board (Top View)



NOTES:  
 1. ALL CAPACITOR VALUES LESS THAN 1 ARE IN MF.  
 AND VALUES GREATER THAN 1 ARE IN μF. ALL  
 RESISTANCE VALUES ARE IN OHMS, UNLESS  
 OTHERWISE INDICATED.  
 2. DC VOLTAGES ARE MEASURED FROM POINT  
 INDICATED TO CIRCUIT GROUND WITH A  
 NYTOL LINE VOLTAGE AT 120 VAC, NO  
 SIGNAL APPLIED.



SYMBOL	DESCRIPTION	PART NO.
Tuner VHF, V2660-2-3		472V0185D01
Tuner UHF		472V060D01
CAPACITORS		
C401 - 0.015µf, 1.4kv cer		215V160A03
C418 - 100pf 4kv cer, N2200		215V318H11
C420 - 3.25pf agc trimmer		217V511H02
C429 - 120pf 5% 500v poly		210V290H11
RESISTORS		
R216 - 6K 4.0 WW		251V014H54
R400 - 2Ω 5.0WW 10%		251V033H14
R401 - 680Ω 4.0WW 10%		251V020H78
R402 - 47Ω 4.0WW 10%		251V020H79
R418 - 5.6Ω 1.0WW		251V005A69
XFORMERS & COILS		
L100 - 4.5MHz, quad adjustable coil		230V031H01

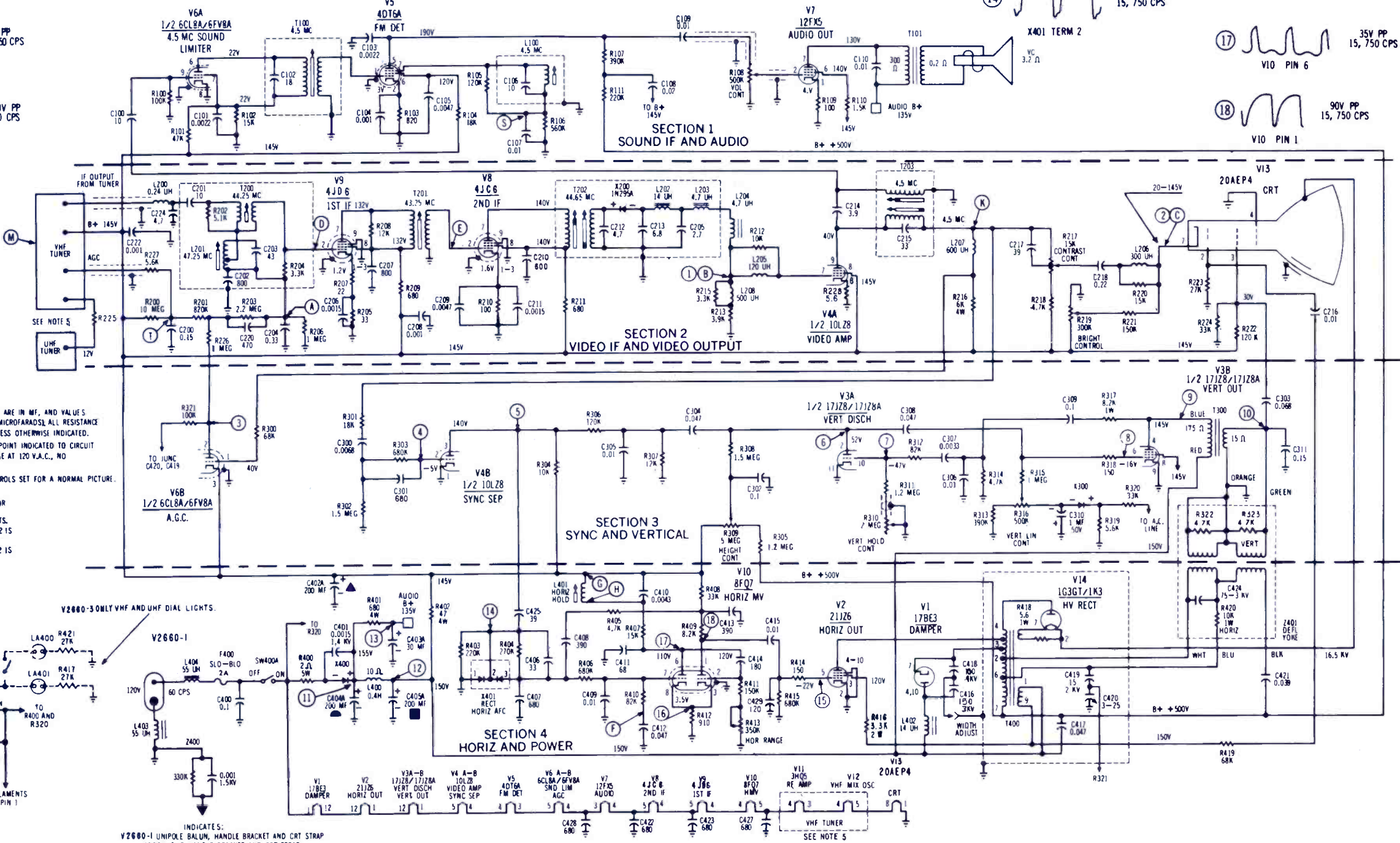
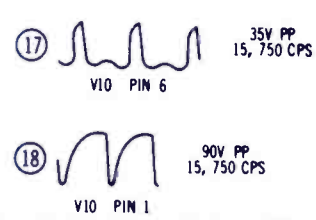
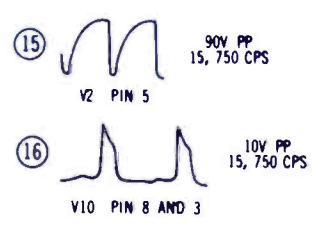
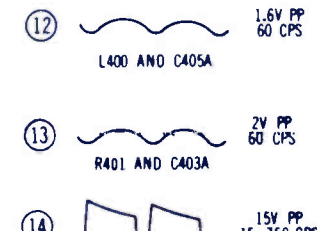
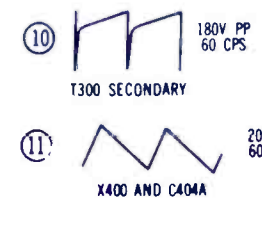
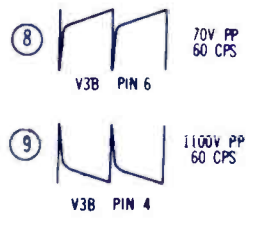
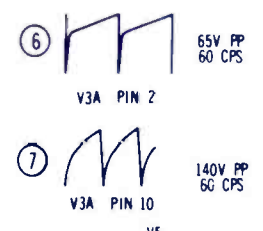
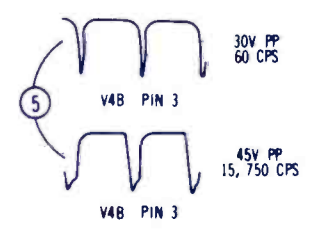
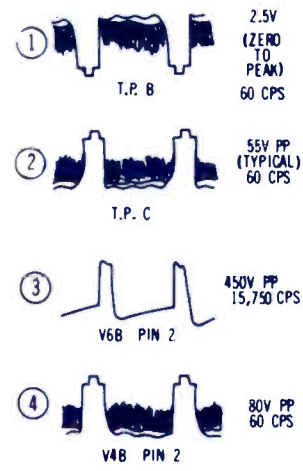
L200 - .24µhf link coil		230V065H06
L201 - 47.25MHz adjustable coil		230V076H01
L206 - 300µh coil		230V141H08
L400 - 375ma choke, 4hv, 10Ω reactor		430V161B01
L401 - horiz hold less shaft adjustable coil		230V144H01
L403 - 55µh coil		230V125H01
T100 - 4.5MHz, sound limiter adjustable xformer		235V046H01
T101 - audio output xformer		430V150H02
T200 - 44.25MHz IF input xformer		235V049H02
T201 - 43.25MHz 1st IF xformer		235V048H04
T202 - 44.65MHz 2nd IF xformer		235V094H06
T203 - 4.5MHz trap & sound xformer		235V076H04
T300 - vert output xformer		430V039H11
T400 - horiz output xformer		493V020H03
Z401 - deflection yoke		430V017C01
F400 - 2a, slo-blo fuse		758V001H09
X402 - silicon instant-on diode V2660-2-3		296V006H03

Z400 - capacitor-resistor package circuit		219V004H03
C310 - 1µf 50v elect		218V012H55
C402A - 200µf 175v elect		
C403A - 30µf, 175v elect		
C404A - 200µf, 175v elect		218V054H30
C405A - 200µf, 175v, elect		
CONTROLS		
R108 & 5W400 - 500K, control vol switch off-on, V2660 1-2		270V159H37
R108 & 5W400 - 500K control vol V2660-3		270V159H38
R219 - 300K, bright control		270V159H05
R217 - 15K contrast control		270V159H04
R310 - 2M, vert hold control		270V159H10
R309 - 5M height control		
R316 500K, vert lin control		270V155H05
R413 350K, horiz range control 3 section		

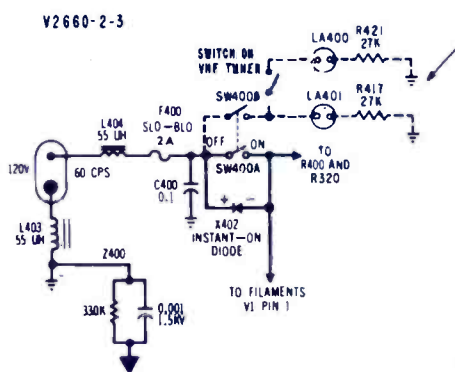
TECHNICIAN / DEALER

WESTINGHOUSE

**WESTINGHOUSE**  
TV Chassis V-2660

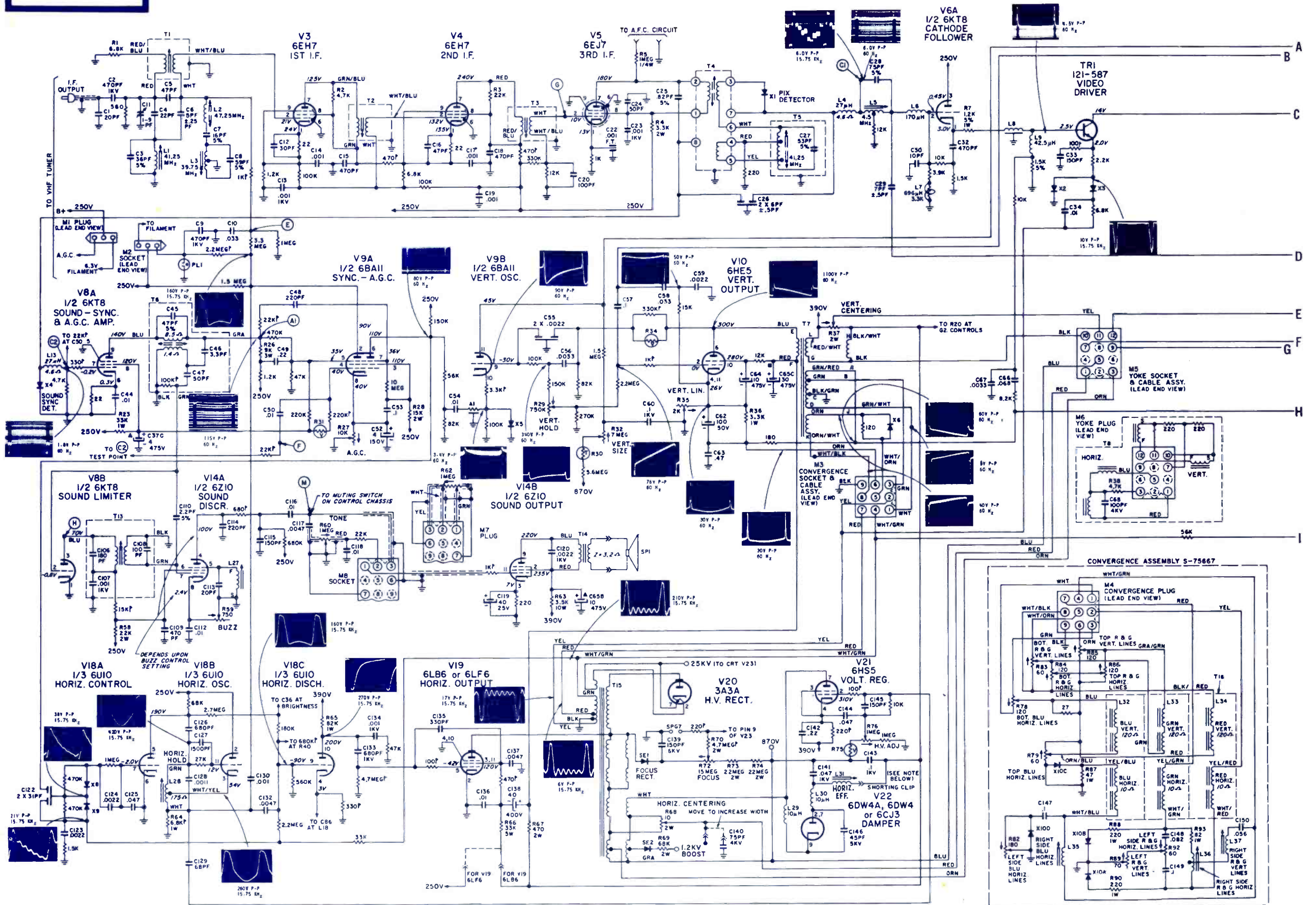


- NOTE:
- ALL CAPACITOR VALUES LESS THAN 1 ARE IN MF, AND VALUES GREATER THAN 1 ARE IN PF (MICROMICROFARADS). ALL RESISTANCE VALUES ARE IN OHMS, 0.5 WATT UNLESS OTHERWISE INDICATED.
  - DC VOLTAGES ARE MEASURED FROM POINT INDICATED TO CIRCUIT GROUND WITH A VTVM. LINE VOLTAGE AT 120 V.A.C., NO SIGNAL APPLIED.
  - WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE.
  - SCHEMATIC SHOWS POWER SUPPLY FOR NON INSTANT-ON CHASSIS. FOR INSTANT-ON VARIATIONS SEE INSERTS.
  - WITH 470V16100 VHF TUNER; V12 IS 6K28 AND R225 IS 12K, 2W WITH 470V18500 VHF TUNER; V12 IS 5H87 AND R225 ZERO



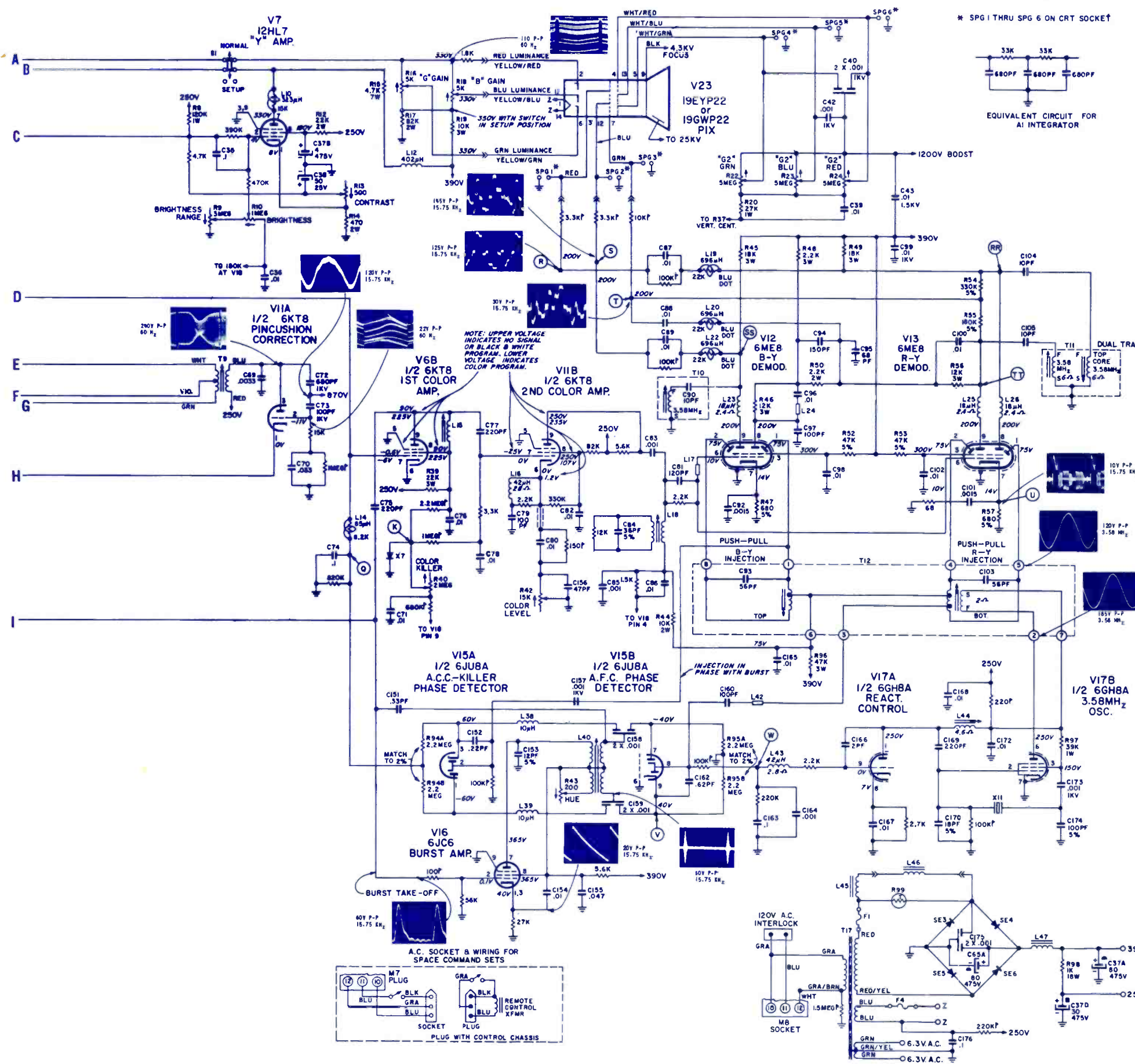
INDICATES:  
V2660-1 UNIPOLAR BALUN, HANDLE BRACKET AND CRT STRAP  
V2660-2-3 HANDLE BRACKET AND CRT STRAP



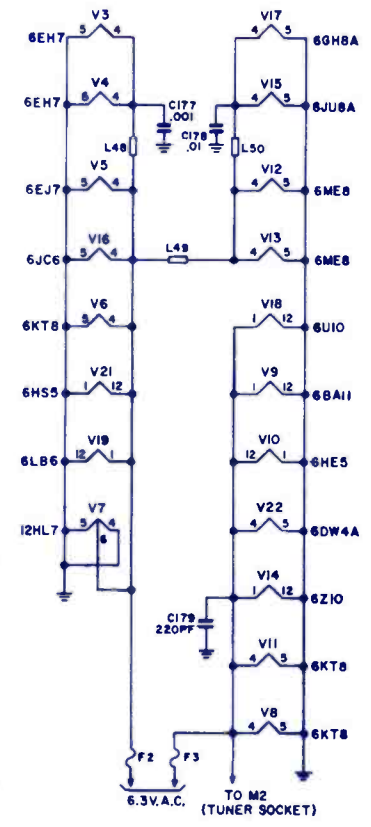
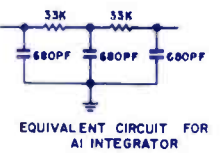


NOTE: SHORTING CLIP: SEE HORIZONTAL EFFICIENCY COIL ADJUSTMENT PROCEDURE.





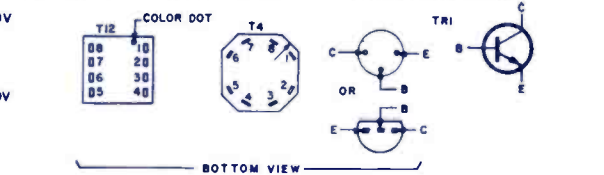
\* SPG 1 THRU SPG 6 ON CRT SOCKET



NOTES:  
ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.  
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.  
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.  
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT AND NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.  
RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT. ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.  
COIL RESISTANCE NOT GIVEN UNDER ONE OHM.  
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED. FOR CAPACITOR TOLERANCE SEE LEGEND.  
CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS MIN. PER VOLT HIGH VOLTAGE METER.  
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.  
○ INDICATES ALIGNMENT & TEST POINT.  
PF = PICOFARAD. MH<sub>2</sub> = MEGAHERTZ = MEGACYCLE.  
± INDICATES ±20% MAY BE USED.  
⊥ INDICATES CHASSIS GROUND.

TEST POINTS:  
A1 SOUND-SYNC-A.G.C. AMP. OUTPUT  
C1 PICTURE DETECTOR OUTPUT  
C2 SYNC-SOUND DETECTOR OUTPUT  
E I.F.-A.G.C.  
F GROUND FOR I.F. ALIGNMENT  
G 3RD I.F. GRID  
H SOUND LIMITER PLATE  
M SOUND OUTPUT  
K KILLER VOLTAGE (GROUND TO OPEN COLOR CHANNEL)  
Q A.C.C. VOLTAGE  
R R-Y GRID OF CRT  
E B-Y GRID OF CRT  
U G-Y GRID OF CRT  
T R-Y DEMOD. CATHODE  
V COLOR A.F.C. DETECTOR  
W 3.5MH<sub>2</sub> COLOR A.F.C. DETECTOR

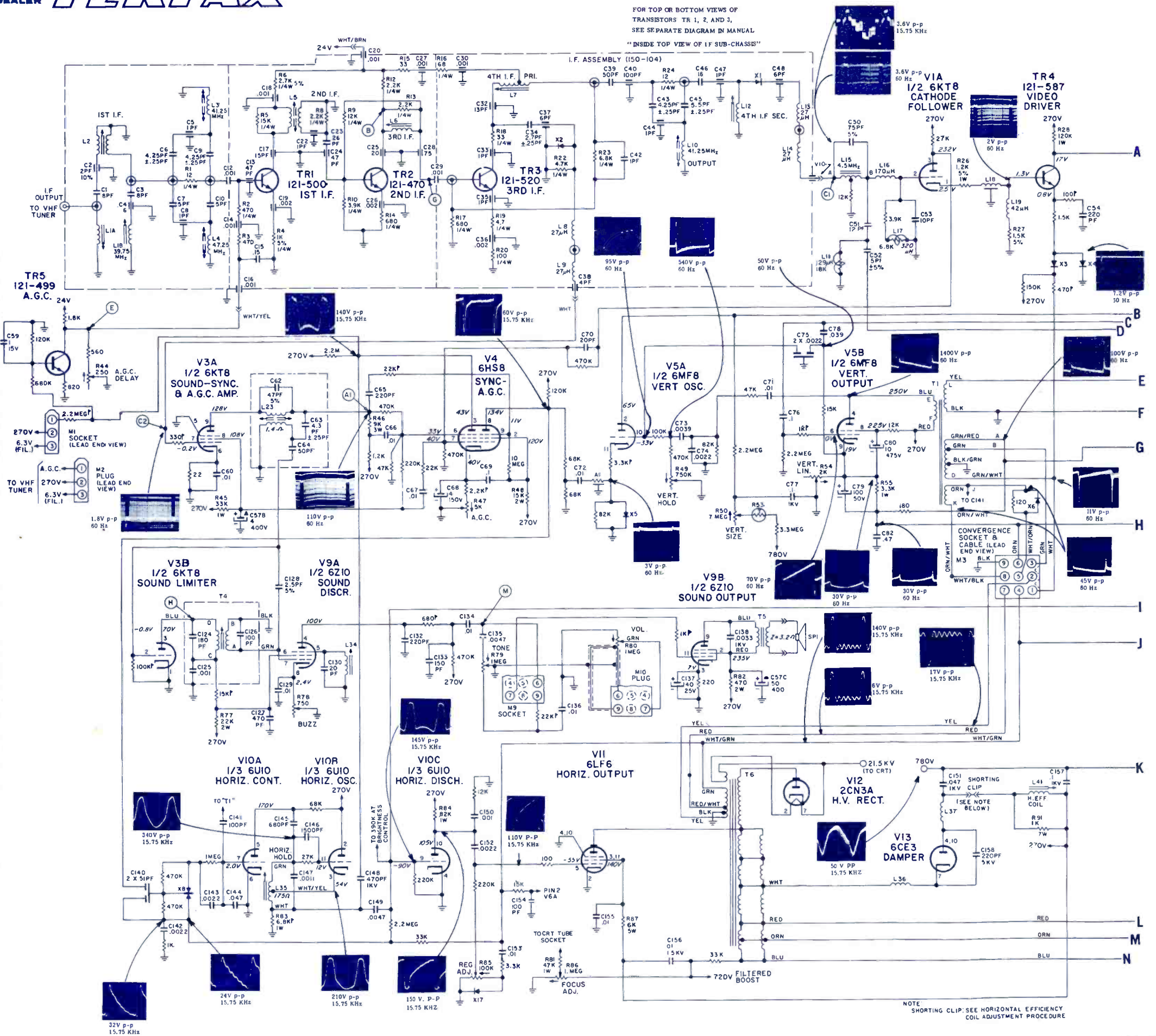
PHOTOGRAPHS TAKEN ON A 90% MODULATED COLOR BAR SIGNAL WITH THE COLORS, READING FROM LEFT TO RIGHT, OF BLUE, MAGENTA, RED, YELLOW, WHITE, CYAN, GREEN, BLACK & WHITE. THE HUE SETTING WAS ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE GRIDS OF THE PICTURE TUBE DEPEND UPON THE HUE SETTING.





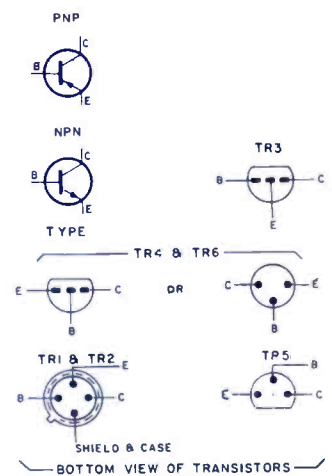
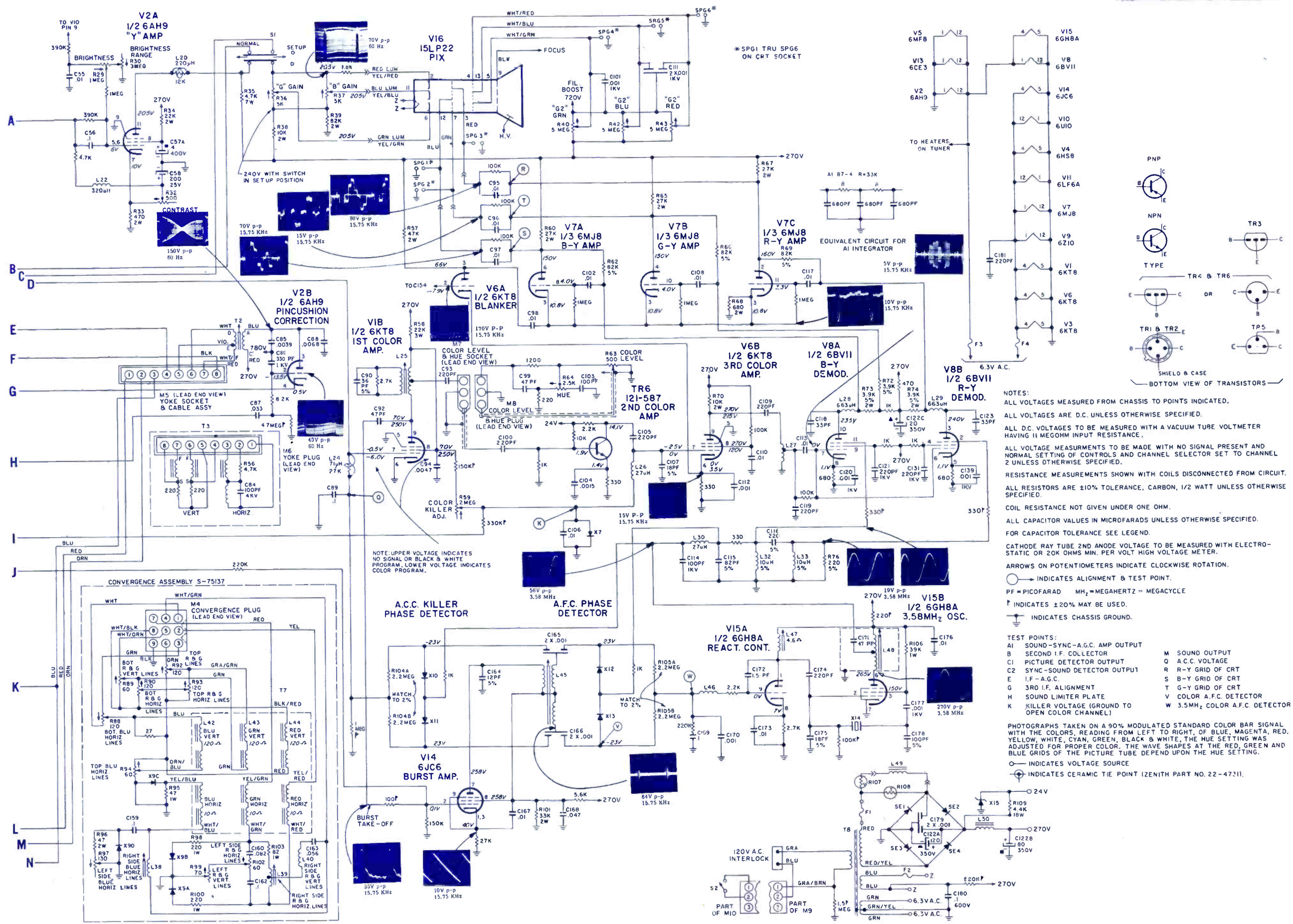
FOR TOP OR BOTTOM VIEWS OF TRANSISTORS TR 1, 2, AND 3, SEE SEPARATE DIAGRAM IN MANUAL  
"INSIDE TOP VIEW OF IF SUB-CHASSIS"

SYMBOL	DESCRIPTION	ZENITH PART NO.
C37	1.9pF trimmer cap 500v	22-5476
C37A	4µf elect cop 400v	22-4902
C37B	4µf elect cop 400v	22-5520
C37C	50µf elect cop 400v	22-4902
C59	1µf electrolytic (non-polar) 20% 15v	22-2467
C62	47pF disc cop 5% 500v	22-28
C75	2.2K 0.022µf disc cop 10% 500v	22-29
C84	100pF disc cop (part of T6) 4kv	22-29
C111	2X .001µf disc cop 20% 1kv	22-5556
C122A	120µf electrolytic cap 350v	22-5556
C122B	80µf electrolytic cap 350v	22-5556
C122C	20µf electrolytic cap 350v	22-5556
C124	180pF mica cop 10% 500v	22-5216
C126	100pF mica cop 10% 500v	22-5106
C145	680pF mica cop 10% 500v	22-2901
C156	.01µf disc cop 1.5kv	22-4671
C158	220pF disc cop 10% 5kv	22-5627
R4	1K resistor 5% ampex only 1/4w	63-7470
R6	2.7K resistor 5% ampex only 1/4w	63-7471
R8	2.2K resistor 10% A-B only 1/4w	63-7104
R13	2.2K resistor 10% A-B only 1/4w	63-7104
R29	1M brightness control	63-7092
R30	3M bright range control	63-7101
R32	500Ω contrast control	63-6980
R35	4.7K resistor 10% 7w	63-7455
R36	5K green gain control	63-6334
R37	5K blue gain control	63-6333
R40	5M G2 green control	63-6976
R42	5M G2 blue control	63-6977
R44	250Ω AGC delay control	63-7108
R47	5K AGC control	63-7389
R49	750Ω vert hold control	63-6979
R50	7M vert size control	63-5415
R53	thermistor	63-6824
R54	2K vert lin control	63-6951
R59	2M color killer control	63-5463
R63	500Ω color level control	63-7536
R64	2.5K hue control	63-7535
R78	750Ω buzz control	63-6950
R79	1M tone control	63-7351
R80	1M volume control & AC switch	63-6953
R85	100K regulator control	63-7434
R86	1M focus control	63-7388
R88	120Ω bottom blue horiz lines cont.	63-7347
R91	1K resistor	63-3296
R92	120Ω top red & grn vert lines cont.	63-7073
R94	60Ω top blue horiz lines cont.	63-7348
R105A	2.2M resistor (matched to 1/2w)	63-4607
R105B	2.2M resistor 2% 1/2w	63-4607
R107	voltage dependent resistor	63-7146
R108	thermistor	63-7346
R109	4.4K resistor 10% 18w	63-6968
L1B	39.75MHz trap coil assembly	20-1521
L2	1st IF transformer	20-1516
L3	41.25MHz input trap coil assembly	20-1516
L4	47.25MHz trap coil assembly	20-1516
L5	2nd IF xformer	20-1597
L6	3rd IF coil	20-1458
L7	4th IF primary xformer	20-1534
L10	41.25MHz output trap coil assembly	20-1474
L12	4th IF secondary xformer	20-1458
L15	4.5MHz trap coil winding assembly	5-77669
L18	delay line winding assembly	5-79085
L23	sound take-off coil assembly	5-77414
L25	1st color amplifier plate coil assy.	5-77408
L27	2nd color amplifier plate coil assy.	5-77409
L34	quad coil assy.	5-80480
L35	horiz osc coil assy.	5-77584
L41	horiz efficiency coil assy.	5-79285
L45	burst amp & phase detector coil assy.	5-80590
L47	color osc frequently adj. coil assy.	5-77583
L48	osc plate coil assy.	5-77411
L50	filter choke	95-2490
T1	vert output xformer	95-2491
T2	pincushion coil winding assy.	5-77784
T3	deflection yoke	95-2479
T5	sound output xformer	95-2510
T6	horiz sweep transformer	5-78151
T8	power xformer	95-2572
A1	integrator	87-4
F1	lamp bel-fuse	136-71
S1	B/W set-up switch	85-994
X15	zener diode	103-105
TR1	1st IF transistor	121-500
TR2	2nd IF transistor	121-470
TR3	3rd IF transistor	121-520
TR4	video driver transistor	121-587
TR5	AGC amp	121-499
TR6	2nd color amp transistor	121-587



NOTE SHORTING CLIP: SEE HORIZONTAL EFFICIENCY COIL ADJUSTMENT PROCEDURE





NOTES:  
ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.  
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.  
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.  
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT AND NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.  
RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.  
ALL RESISTORS ARE  $\pm 10\%$  TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.  
COIL RESISTANCE NOT GIVEN UNDER ONE OHM.  
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.  
FOR CAPACITOR TOLERANCE SEE LEGEND.  
CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS MIN. PER VOLT HIGH VOLTAGE METER.  
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.  
○ INDICATES ALIGNMENT & TEST POINT.  
PF = PICOFARAD MHZ = MEGAHERTZ = MEGACYCLE  
f INDICATES  $\pm 20\%$  MAY BE USED.  
⊥ INDICATES CHASSIS GROUND.

TEST POINTS:  
A1 SOUND-SYNC-A.G.C. AMP OUTPUT  
B SECOND I.F. COLLECTOR  
C1 PICTURE DETECTOR OUTPUT  
C2 SYNC-SOUND DETECTOR OUTPUT  
E I.F.-A.G.C.  
G 3RD I.F. ALIGNMENT  
H SOUND LIMITER PLATE  
K KILLER VOLTAGE (GROUND TO OPEN COLOR CHANNEL)  
M SOUND OUTPUT  
Q A.C.C. VOLTAGE  
R R-Y GRID OF CRT  
S B-Y GRID OF CRT  
T G-Y GRID OF CRT  
V COLOR A.F.C. DETECTOR  
W 3.5MHz COLOR A.F.C. DETECTOR

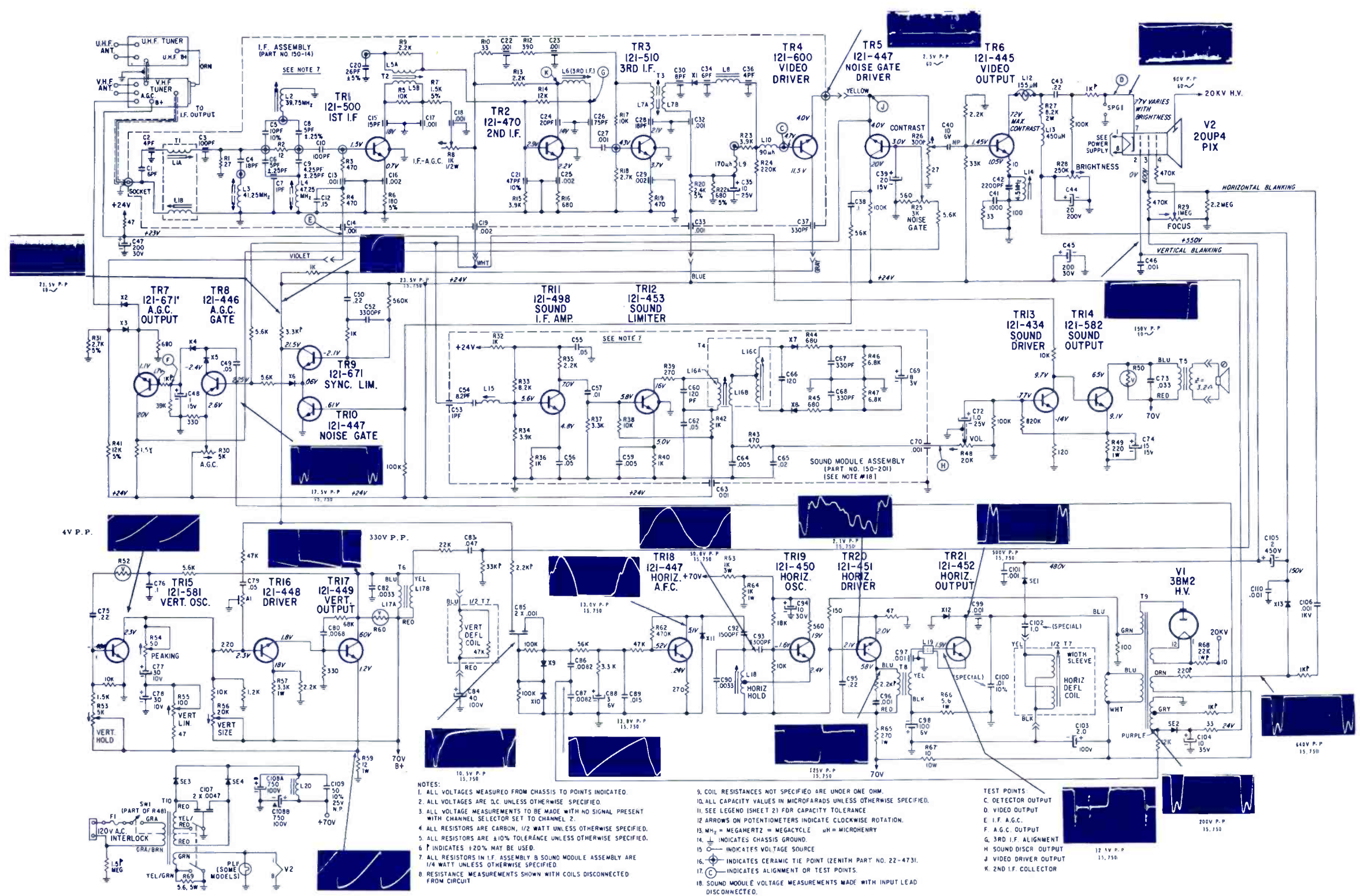
PHOTOGRAPHS TAKEN ON A 90% MODULATED STANDARD COLOR BAR SIGNAL WITH THE COLORS, READING FROM LEFT TO RIGHT, OF BLUE, MAGENTA, RED, YELLOW, WHITE, CYAN, GREEN, BLACK & WHITE. THE HUE SETTING WAS ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE GRIDS OF THE PICTURE TUBE DEPEND UPON THE HUE SETTING.  
○ INDICATES VOLTAGE SOURCE  
⊕ INDICATES CERAMIC TIE POINT (ZENITH PART NO. 22-4731).



SYMBOL	DESCRIPTION	ZENITH PART NO.
C41	1000pf disc 1kv	22-17
C60	120pf mica cap 300v	22-5206
C78	30µf elect cap +20%-10% 10v	22-5417
C85	2 X .001µf dual disc cap 500v	22-21
C98	100µf elect cap 6v	22-5413
C100	.01µf molded cap 10% (special) 600v	22-4772
C101	.001µf disc cap.10% 1kv	22-17
C102	1µf molded cap 10% (special) 200v	22-4771
C107	2 X .0047µf disc cap 500v	22-24
C108A	750µf elect cap 100v	22-5410
C108B	750µf elect cap 100v	22-5410
R27	8.2K resistor 2w	63-4984
R50	VDR	63-5440
R52	VDR	63-7085
R60	VDR	63-7086
R67	101Ω resistor 10% 10w	63-7010
R8	1K IF & AGC control	63-7181
R25	3K noise gate control	63-7256
R26	300Ω ±20% contrast control	63-7081

R28	250K bright control	63-5380
R29	1M focus control	63-7078
R30	5K AGC control	63-7082
R48	20K volume control and switch	63-7313
R53	5K vert hold control	63-7083
R54	50Ω peaking control	63-7084
R55	100Ω vert lin control	63-7079
R56	20K vert size control 1/2w	63-7080
L2	39.75MHz trap coil assembly	20-1475
L3	41.25MHz trap coil assembly	20-1591
L4	47.25MHz trap coil assembly	20-1516
L8	peaking coil	20-2013
L9	series peaking coil	20-2707
L10	det shunt peaking coil	20-2014
L12	15µH series peaking coil	20-2523
L13	450µH shunt peaking coil	20-2025
L14	4.5MHz trap coil	20-1500
L15	4.5MHz input coil (part of T4)	95-2600
L16B	ratio det coil	part of T4
L18	horiz osc coil	149-379
L19	ferrite sleeve	149-379

L20	filter choke	95-2513
T1	1st IF xformer assembly	20-1459
T2	2nd IF xformer assembly	20-1515
T3	4th IF xformer assembly	20-1460
T4	ratio det coi (part of 150-201)	5-75699
T5	audio output xformer	95-2507
T6	vert output xformer	95-2515
T7	deflection yoke	95-2517
T8	horiz driver xformer	95-2516
T9	horiz sweep xformer	5-75818
T10	power xformer	95-2514
A1	integrota	87-11
F1	fuse 1.2a	136-70
X7	crystal diode	103-90
X9	silicon diode	103-51
X12	diode (damping)	103-111
X13	diode (video)	103-112
SE1	rectifier (focus)	212-80
SE2	rectifier (24v)	212-64
SE3	rectifier (power)	212-71
SPG1	spark gap	52-957



- NOTES:
- ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
  - ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
  - ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT WITH CHANNEL SELECTOR SET TO CHANNEL 2.
  - ALL RESISTORS ARE CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
  - ALL RESISTORS ARE ±10% TOLERANCE UNLESS OTHERWISE SPECIFIED.
  - INDICATES ±20% MAY BE USED.
  - ALL RESISTORS IN I.F. ASSEMBLY & SOUND MODULE ASSEMBLY ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
  - RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

- COIL RESISTANCES NOT SPECIFIED ARE UNDER ONE OHM.
- ALL CAPACITY VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- SEE LEGEND (SHEET 2) FOR CAPACITY TOLERANCE.
- ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
- MHz = MEGACYCLE µH = MICROHENRY
- ⊖ INDICATES CHASSIS GROUND.
- ⊕ INDICATES VOLTAGE SOURCE.
- ⊙ INDICATES CERAMIC TIE POINT (ZENITH PART NO. 22-4731).
- ⊙ INDICATES ALIGNMENT OR TEST POINTS.
- SOUND MODULE VOLTAGE MEASUREMENTS MADE WITH INPUT LEAD DISCONNECTED.

- TEST POINTS:
- C. DETECTOR OUTPUT
  - D. VIDEO OUTPUT
  - E. I.F. A.G.C.
  - F. A.G.C. OUTPUT
  - G. 3RD I.F. ALIGNMENT
  - H. SOUND DISCR OUTPUT
  - J. VIDEO DRIVER OUTPUT
  - K. 2ND I.F. COLLECTOR



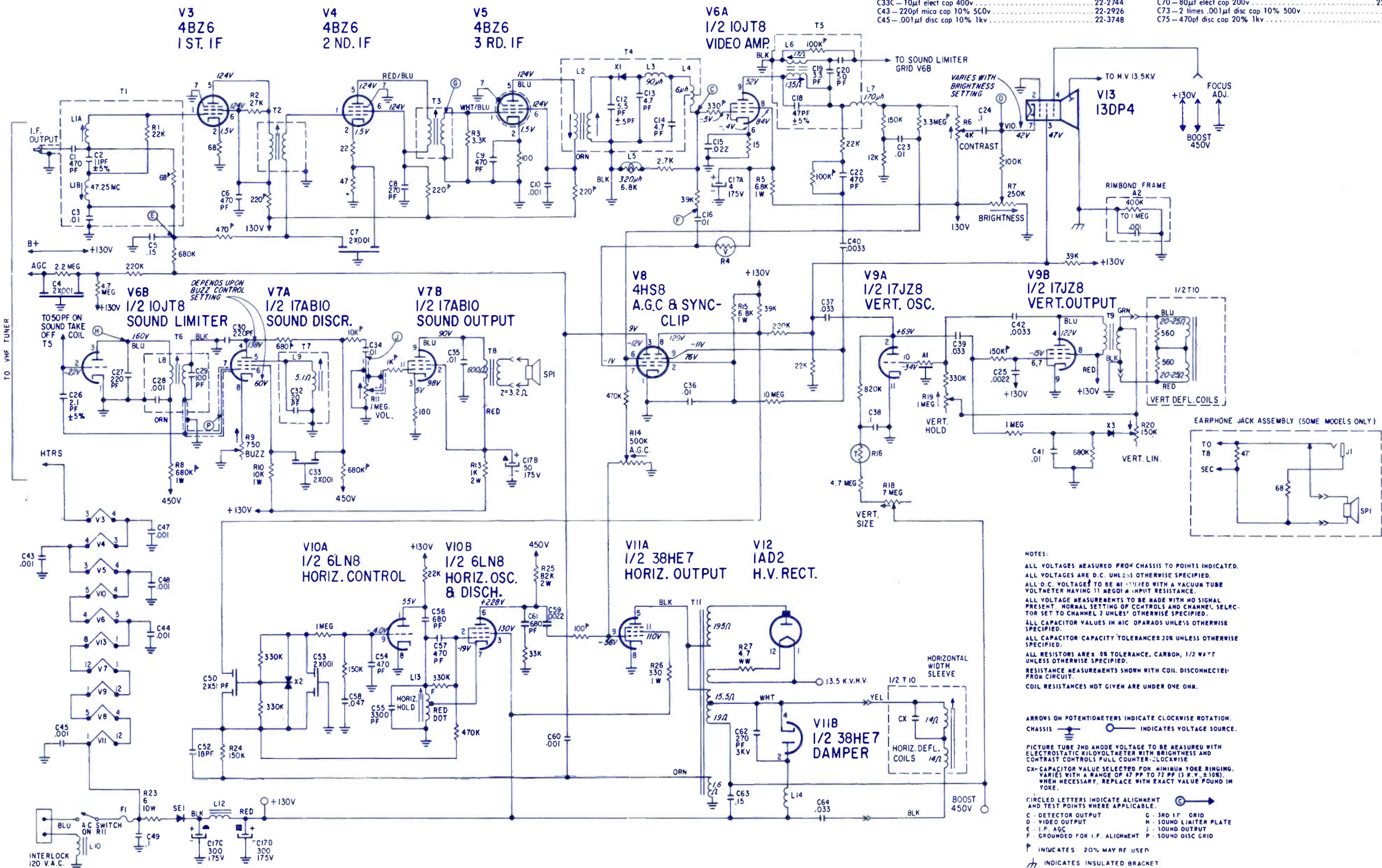
T6—audio output xformer	95-2185
T7—vert output xformer	95-2523
T8—yoke	95-2450
T9—power xformer	95-2495
T10—horiz sweep xformer	5-76741
T11—2nd IF xformer	20-1515
L2—41.25MHz trap coil	20-1591
L3—39.75MHz trap coil	20-1590
L4—47.25MHz trap coil	20-1516
L6—3rd IF coil	20-1458
L8—peaking coil	20-2013
L9—peaking coil	20-2707
L10—shunt peaking coil	20-2014
L11—shunt peaking coil	20-2028
L13—series peaking coil	20-2524
L15—quad coil	5-66699
L16—filter choke	95-2189
L17—horiz osc coil	5-56876

L18—spook coil	20-2005
X6—dual selenium diode	103-20
X7—zener diode	103-105
A1—integrator	87.4
F1—belfuse (2a)	136-66
FL1—neon bulb	100-997
R20—15K contrast control	63-6356
R22—250K bright control	63-5380
R24—3M focus control	63-6467
R25—750Ω buzz control	63-3284
R27—volume control (space command sets only) 2w	63-6422
R28—volume control & switch	63-5126
R31—1M AGC control	63-4833
R32—7M vert size control	63-4833
R34—750K vert hold control	63-7185
R35—600Ω vert linearity control	63-5312
R38—3K width control	63-5031
R47—IF AGC control	63-7181

C77—1500pf poly cap 10% 500v	22-3916
C79—330pf mica cap 10% 500v	22-3667
C89—75pf disc cap 10% 4kv	22-2954
R1—12Ω resistor 10% A-B only 1/4w	63-7102
R2—27Ω resistor 10% A-B only 1/4w	63-7103
R5—10Ω resistor 10% A-B only 1/4w	63-7106
R17—VDR	63-6970
R18—15K resistor 10% 3w	63-4458
R19—6.8K resistor 10% 7w	63-5338
R37—7.5K resistor 10% 3w	63-4904
R41—thermal resistor mounted in yoke	63-5187
R42—4.4K resistor 10% 20w	63-1783
R44—VDR	63-6455
T1—1st IF xformer	20-1459
T2—4th IF xformer	20-1460
T3—sound take-off coil assembly	5-65529
T4—intercarrier coil assembly	5-67031
T5—quad coil assembly	5-75410

SYMBOL	DESCRIPTION	ZENITH PART NO.
C19	26pf disc cap 5% 25v	22-3939
C33A	4uf elect cap 350v	22-2744
C33B	20uf elect cap 25v	22-2744
C33C	10uf elect cap 400v	22-2744
C43	220pf mica cap 10% 500v	22-2926
C45	.001uf disc cap 10% 1kv	22-3748

C46	100pf mica cap 10% 500v	22-5106
C67A	200uf elect cap 25v	22-3863
C67B	80uf elect cap 200v	22-3863
C67C	80uf elect cap 400v	22-3863
C70	80uf elect cap 200v	22-3965
C73	2 times .001uf disc cap 10% 500v	22-21
C75	470pf disc cap 20% 1kv	22-6



**NOTES:**

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED. ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE. ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 1 UNLESS OTHERWISE SPECIFIED. ALL CAPACITOR VALUES IN MIC. FARADS UNLESS OTHERWISE SPECIFIED. ALL CAPACITOR CAPACITY TOLERANCE 20% UNLESS OTHERWISE SPECIFIED. ALL RESISTORS ARE 2% OR 5% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED. RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT. COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION. CHASSIS  $\perp$  INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLT METER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.

CX—CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 P.V., ±10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

C—DETECTOR OUTPUT  
D—VIDEO OUTPUT  
E—I.F. AGC  
F—GROUNDED FOR I.F. ALIGNMENT  
P—SOUND OUTPUT

G—3RD I.F. GRID  
H—SOUND LIMITER PLATE  
J—SOUND DISC GRID

⊕ INDICATES 20% MAY BE USED  
⊕ INDICATES INSULATED BRACKET



# ZENITH

TV Chassis 14Y33

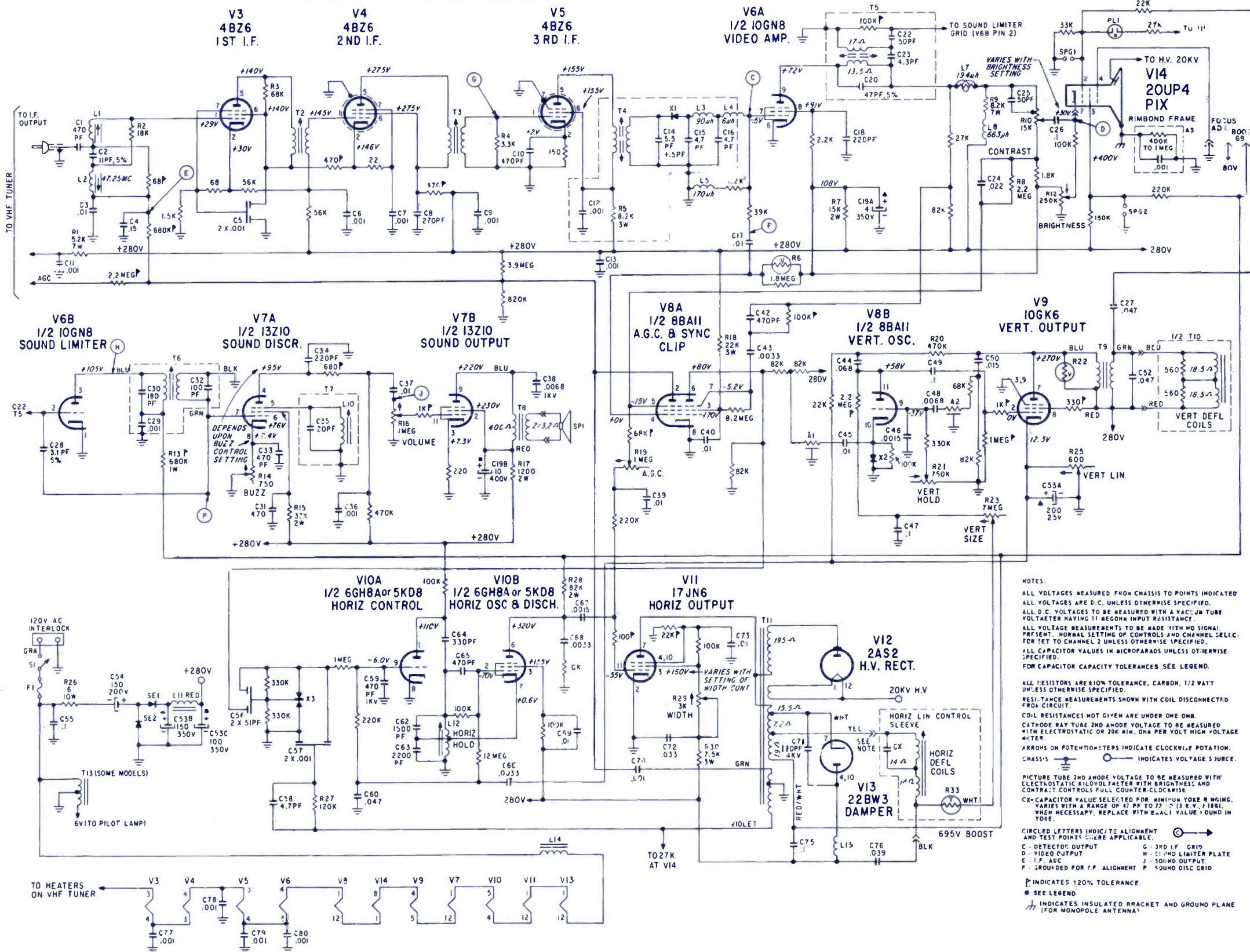
## ELECTRONIC TECHNICIAN / DEALER **TEKFAK**

SYMBOL	DESCRIPTION	ZENITH PART NO.
C5	2 X .001 disc ±10% 500v	22-21
C19A	4μf elect 350v	22-5322
C19B	10μf elect 400v	
C30	180pf mica 10% 500v	22-3928
C32	100pf mica ±10% 500v	22-5106

C53A	— 200μf elect 25v	22-5268
C53B	— 150μf elect 350v	
C53C	— 100μf elect 350v	
C54	— 150μf elect 200v	22-4654
C56	— 2 X 51pf disc 15% 500v	22-25
C59	— 470pf disc 1k	22-6
C64	— 330pf mica ±10% 500v	22-2667
C71	— 110pf disc 4k	22-2694
R1	— 5.2K resistor 7w	63-4754
R6	— VDR	63-5494
R7	— 15K 2w	63-5719
R22	— varistor	63-6445
R26	— 6Ω 10w	63-4450
R27	— 120K IRC only 1/2w	63-5315
R30	— 7.5K 3w	63-4904
R33	— thermal resistor supplied with yoke	63-5187
T2	— 2nd IF xformer	20-857
T3	— 3rd IF xformer	20-858

T4	— 4th IF xformer	20-859
T5	— sound take off coil assem	5-74446
T6	— intercarrier coil	5-72218
T7	— quod coil	5-75409
T8	— audio output xformer	95-2396
T9	— vert output xformer	95-2333
T10	— yoke	95-2391
T11	— horiz sweep xformer	5-74447
T13	— filament auto xformer	95-2560
L1	— 1st IF coil	20-856
L2	— adj ch sound trap	20-860
L3	— det series peaking coil	20-2013
L4	— choke coil	20-2004
L5	— det shunt peaking coil	20-2014
L7	— video series peaking coil	20-2512
L8	— video shunt peaking coil	20-2017
L10	— quad coil winding assembly	5-74682
L11	— filter choke	95-1805

L12	— horiz osc coil	5-56876
L13	— spook coil	20-2005
L14	— choke coil	20-1260
A1	— integrator unit	87-4
A2	— integrator unit	87-5
A3	— R/C network unit	105-79
F1	— fuse 2a	136-66
X3	— dual selenium diode	103-20
PL1	— Neon lamp	100-397
R10	— 15K contrast control	63-6491
R12	— 250K bright control	63-6489
R14	— 750Ω buzz control	63-6487
R16	— 1M volume control & AC switch	63-6349
R19	— 1M AGC	63-4833
R21	— 750K vert hold control	63-7185
R23	— 7M vert size control	63-6433
R25	— 500Ω vert linearity control	63-6488
R29	— 3K width control	63-5031



**NOTES:**  
 ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED  
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.  
 ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE  
 VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.  
 ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL  
 PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELIC-  
 TOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.  
 ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE  
 SPECIFIED.  
 FOR CAPACITOR CAPACITY TOLERANCES SEE LEGEND.  
 ALL RESISTORS ARE 5% TOLERANCE, CARBON, 1/2 WATT  
 UNLESS OTHERWISE SPECIFIED.  
 RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED  
 FROM CIRCUIT.  
 COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.  
 CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED  
 WITH ELECTROSTATIC OR 20K OHM. OHM PER VOLT HIGH VOLTAGE  
 METER.  
 ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.  
 CHASSIS — INDICATES VOLTAGE SOURCE.  
 PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH  
 ELECTROSTATIC KILOVOLT METER WITH BRIGHTNESS AND  
 CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.  
 CX—CAPACITOR VALUE SELECTED FOR MINIMUM YOKE WINDING.  
 VARIES WITH A RANGE OF 47 PF TO 330 PF (3 K.V. > 18K).  
 WHEN NECESSARY, REPLACE WITH EQUAL VALUE FOUND IN  
 YOKE.  
 CIRCLED LETTERS INDICATE ALIGNMENT  
 AND TEST POINTS WHERE APPLICABLE.  
 C — DETECTOR OUTPUT G — 3RD I.F. GRID  
 D — VIDEO OUTPUT H — SOUND LIMITER PLATE  
 E — I.F. AGC J — SOUND OUTPUT  
 F — SHROUDED FOR I.F. ALIGNMENT P — SOUND DISC GRID  
 P INDICATES ±20% TOLERANCE.  
 \* SEE LEGEND  
 [Symbol] INDICATES INSULATED BRACKET AND GROUND PLANE  
 (FOR MONOPOLE ANTENNA)



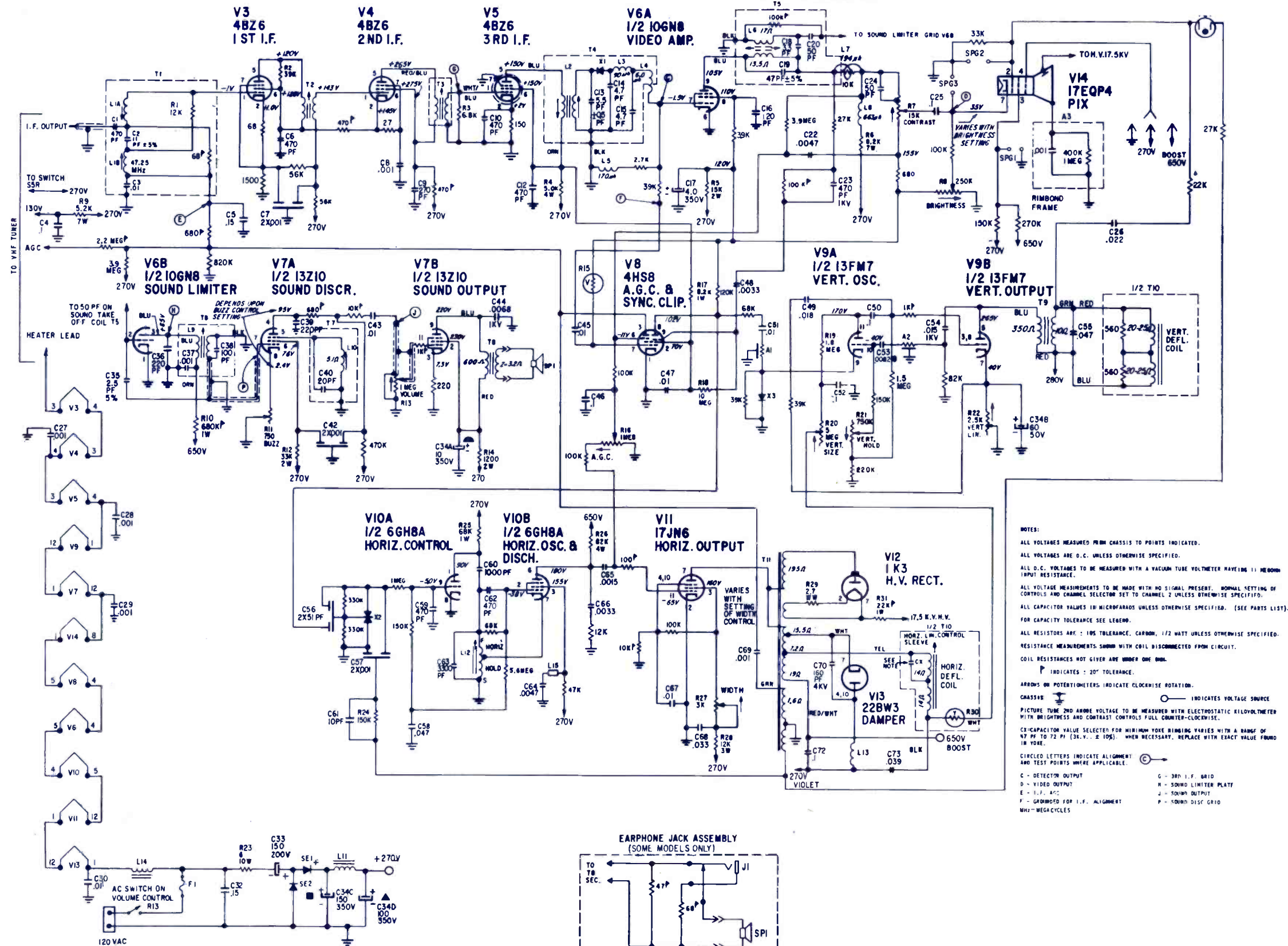
C7 - 2 x .001µf disc ±10% 500v	22-21
C34A - 10µf elect 350v	
C34B - 60µf elect 50v	22-4503
C34C - 150µf elect 350v	
C34D - 100µf elect 350v	
C36 - 220pf mica cap ±10% 500v	22-2926
C38 - 100pf mica ±10% 500v	22-5106
C56 - 2 x 51pf disc ±15% 500v	22-25
C58 - .047µf malded 100v	22-3627
R7 - 15K contrast control	
RB - 250K brightness control	63-5033
R11 - 750Ω buzz control	63-5408
R13 - 1M vol control	63-6961
R15 - voltage dependent resistor	63-5314

R20 - 5M vert size control	63-5030
R21 - 750K vert hold control	63-5032
R22 - 2.5K vert lin control	63-5029
R24 - 150K I.R.C. only 10% 1/2w	63-4844
R30 - thermistor supplied with yoke	63-6331
L3 - det series peaking coil	20-2013
L4 - choke coil	20-2004
L5 - det shunt peaking coil	20-2014
L6 - snd take-off wind assy (part of T5)	5-58348
L8 - video shunt peaking coil	20-2017
L10 - quad coil wind assy (part of T7)	5-45229
L11 - filter choke	95-2039
L12 - horiz osc coil	5-56875
L13 - spook coil	20-2005
L14 - choke coil	20-1260

L15 - iron core	149-333
T1 - 1st IF & trap coil assy	5-63533
T2 - 2nd IF xformer	5-65172
T3 - 3rd IF xformer	5-57624
T4 - 4th IF xformer	5-69988
T5 - snd take-off coil	5-73791
T6 - intercarrier coil	5-73789
T7 - quad coil	5-77405
T8 - snd output xformer	95-2144
T9 - vert output xformer	95-2564
T10 - yoke	95-2157
T11 - horiz sweep xformer	5-75306
A1 - integrator unit	87-4
A2 - integrator unit	87-7
A3 - R/C network	105-79

TECHNICIAN / DEALER **WELFARE**

**ZENITH**  
TV Chassis 14Y21, Z





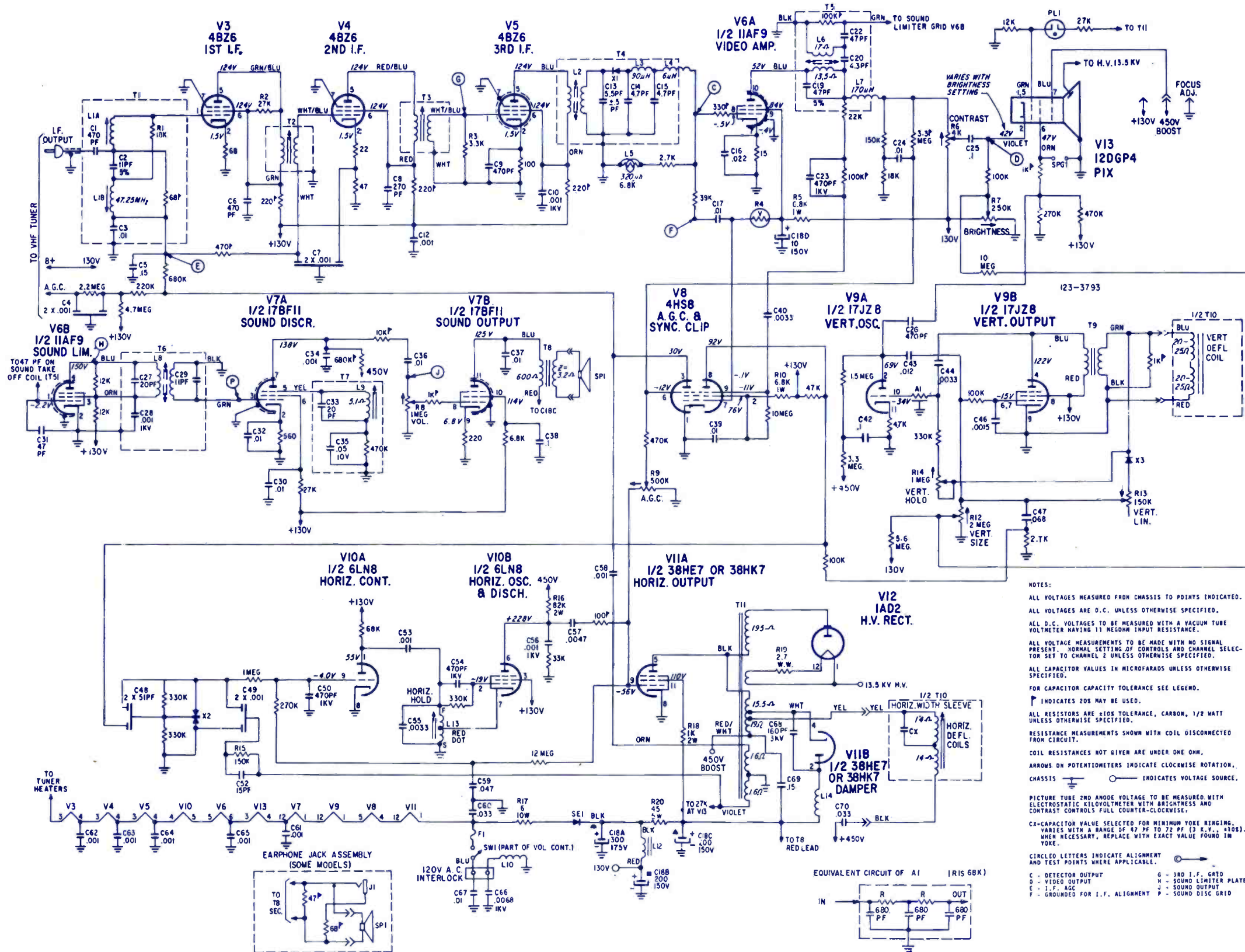
**ZENITH**  
TV Chassis 13Z13

**ELECTRONIC TECHNICIAN / DEALER** **TEKFAK**

SYMBOL	DESCRIPTION	ZENITH PART NO.
C2	11pf disc cap 5% 500v	22-3856
C7	2 x .001µf disc cap 10% 500v	22-21
C18A	300µf elect cap 175v	22-5506
C18B	200µf elect cap 150v	22-5506
C18C	200µf elect cap 150v	22-5506
C18D	10µf elect cap 150v	22-5506
C22	47pf disc cap 5% 500v	22-2467
C48	2 x 51pf disc cap 15% 500v	22-25
C68	160pf disc cap 10% 3kv	22-5628
R4	voltage dependent resistor	63-5472
R6	4K contrast control	63-6463
R7	250K bright control	63-5419
RB	1M volume control	63-7458

R9	500K AGC control	63-5470
R12	2M vert size cont.	63-7454
R13	150K vert lin cont.	63-6914
R14	1M vert hold cont.	63-6915
R15	150K res 10% I.R.C. 1/2w	63-4844
R19	2.7Ω WW res 10% 1/2w	63-3631
L18	1st IF trap coil wind assy	Pt. of T1
L2	4th IF wind assy	Pt. of T4
L4	choke coil	20-2004
L5	det shunt peaking coil	20-2520
L6	sound take off coil assy	Pt. of T5
L7	video series peaking coil	20-2014
L8	intercarrier coil wind assy	Pt. of T6
L9	quad coil wind assy	Pt. of T7
L10	line filter coil	20-1424
L12	filter choke	95-2567

L13	horiz osc coil wind assy	5-56875
L14	spook coil	20-2005
T1	1st IF trap coil assy	5-80520
T2	2nd IF trans assy	5-66852
T3	3rd IF trans assy	5-66853
T4	4th IF trans assy	5-66854
T5	sound take off coil assy	5-80558
T6	intercarrier coil assy	5-77495
T7	quad coil assy	5-79340
T8	sound output trans	95-2499
T9	vert output trans	95-2471
T10	yoke	95-2599
T11	horiz sweep trans	5-79557
A1	integrator	87-7
F1	fuse 1.8a	136-65
PL1	neon bulb NE2H	100-397



**NOTES:**

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR CAPACITY TOLERANCE SEE LEGEND.

Ⓟ INDICATES 20% MAY BE USED.

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS INDICATES VOLTAGE SOURCE.

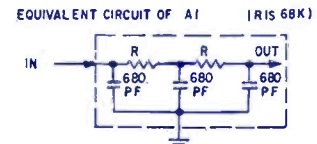
PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.

CX-CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 X .1, .100S). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

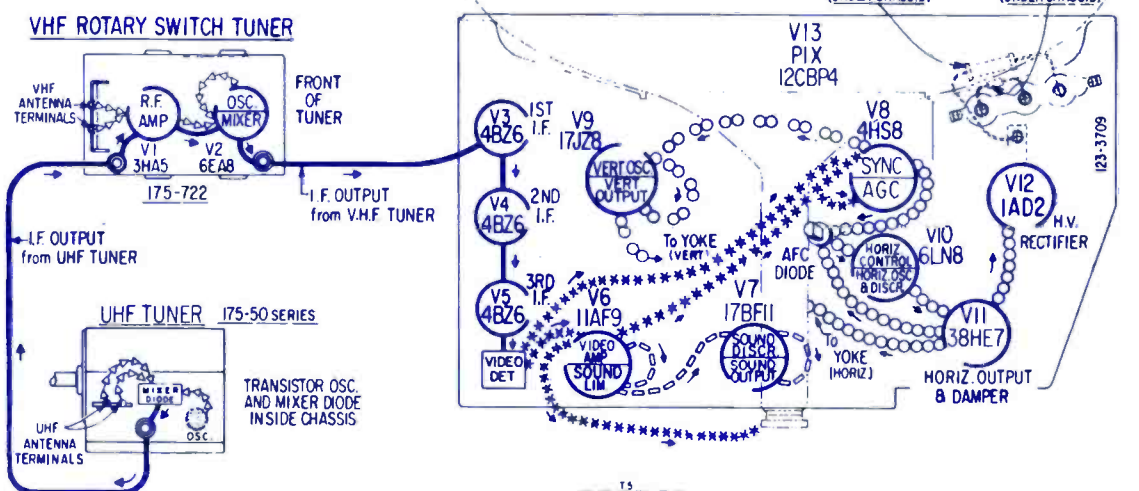
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

C - DETECTOR OUTPUT  
D - VIDEO OUTPUT  
E - I.F. AGC  
F - GROUNDED FOR I.F. ALIGNMENT

G - 3RD I.F. GRID  
H - SOUND LIMITER PLATE  
I - SOUND OUTPUT  
J - SOUND DISC GRID





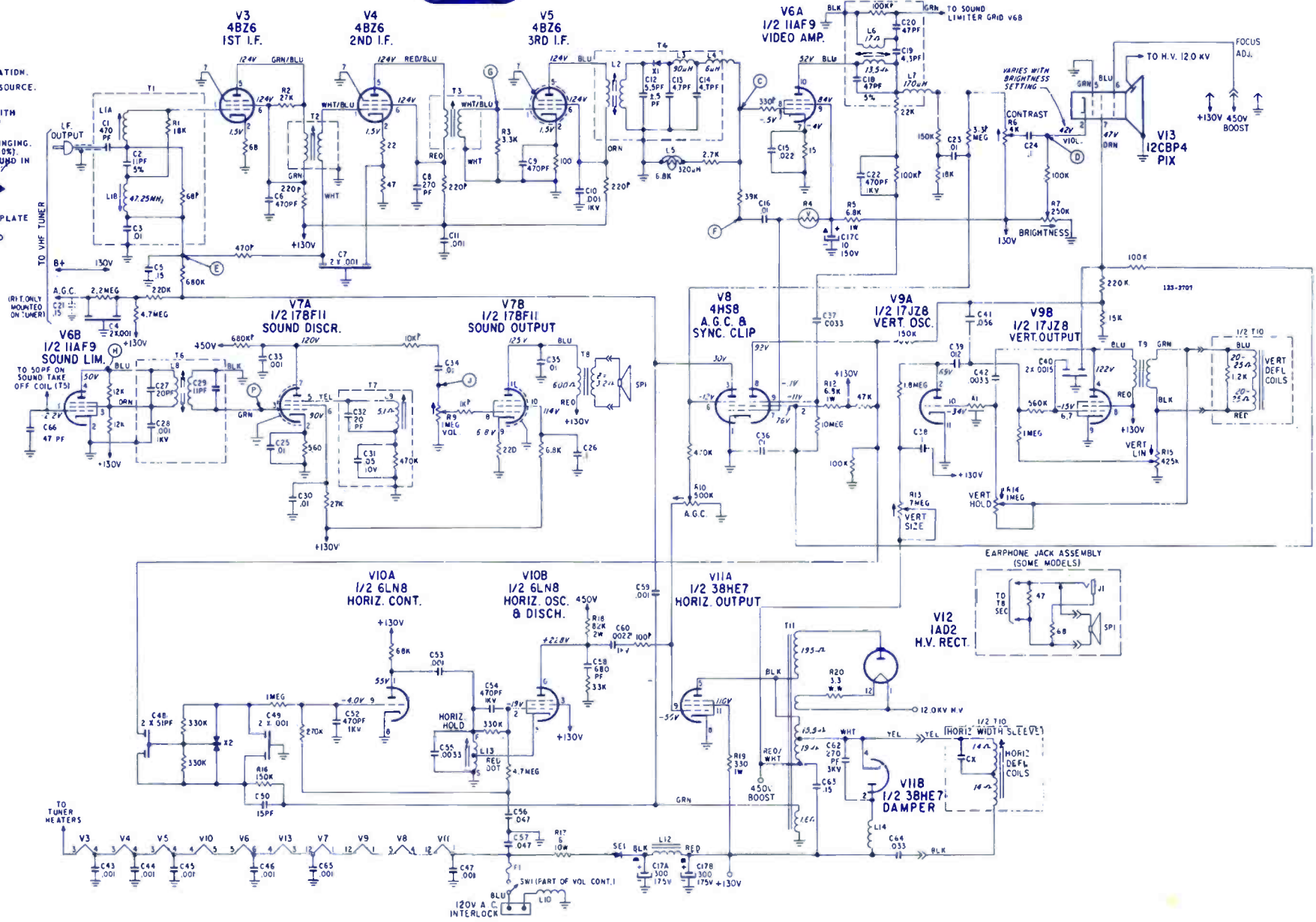


NOTES:

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED. ALL VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE. ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED. ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED. ALL CAPACITOR CAPACITY TOLERANCE SEE LEGEND. ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED. RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT. COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

INDICATES 20% TOLERANCE MAY BE USED.  
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION. CHASSIS ———— ○ INDICATES VOLTAGE SOURCE.  
PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.  
CX—CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V., ±10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.  
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.  
C - DETECTOR OUTPUT G - 3RD I.F. GRID  
D - VIDEO OUTPUT H - SOUND LIMITER PLATE  
E - I.F. AGC J - SOUND OUTPUT  
F - GROUNDED FOR I.F. ALIGNMENT P - SOUND DISC GRID

SYMBOL	DESCRIPTION	ZENITH PART NO.
C17A	— 300µf elect cap 175v	22-5577
C17B	— 300µf elect cap 175v	22-5577
C17C	— 10µf elect cap 150v	22-5577
C20	— 47pf disc cap 5% 500v	22-2467
C40	— 2 x .0015µf disc cap 10% 500v	22-26
C49	— 2 x .001µf disc cap 10% 500v	22-21
C62	— 270pf disc cap 10% 3kv	22-4602
C66	— 47pf disc cap 5% 500v	22-2467
R4	— voltage dependent resistor	63-5472
R6	— 4K contrast control	63-6463
R7	— 250K bright control	63-5419
R9	— 1M volume control	63-6916
R10	— 500K AGC control	63-5470
R13	— 7M vert size cont	63-6463
R14	— 1M vert hold cont	63-6915
R15	— 425K vert lin cont ±30%	63-7558
R17	— 61Ω resistor 10% 10w	63-4450
R18	— 82K resistor 10% 2w	63-5750
R19	— 330 resistor 10% 1w	63-6049
R20	— 3.3Ω WW res 10% 1/2w	63-2769
L2	— 4th IF winding assy	Pt. of T4
L3	— det series peaking coil	20-2013
L4	— choke coil	20-2004
L5	— det shunt peaking coil	20-2520
L7	— video series peaking coil	20-2014
L6	— sound take off coil assy	Pt of T5
L8	— intercarrier coil wind assy	Pt of T6
L9	— quad coil wind assy	Pt of T7
L10	— line filter coil	20-1424
L12	— filter choke	95-2619
L13	— horiz osc coil wind assy	5-56875
L14	— spook coil	20-2005
T1	— 1st IF trap coil assy wiring	5-80520
T2	— 2nd IF trans assy	5-66852
T3	— 3rd IF trans assy	5-66853
T4	— 4th IF trans assy	5-66854
T5	— sound take off assy	5-80558
T6	— intercarrier coil assy	5-77495
T7	— quad coil assy	5-79340
T8	— sound output xformer	95-2499
T9	— vert output xformer	95-2618
T10	— yoke	95-2457
T11	— horiz sweep trans bracket assy	5-78383
X1	— crystal diode	103-23
X2	— dual silicon diode	103-101
A1	— integrator	87-4
R1	— fuse 1.8a	136-65





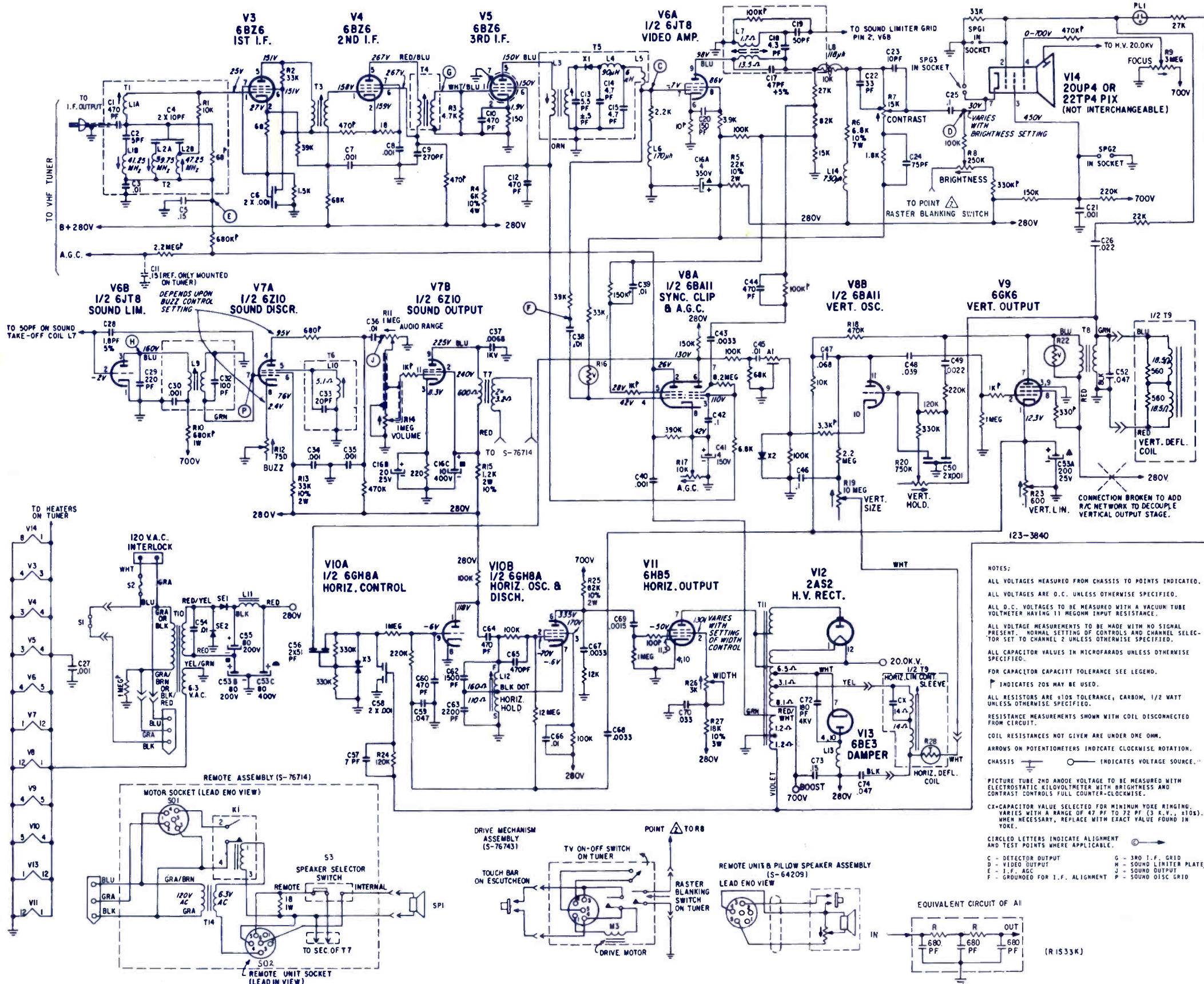
**ZENITH**  
TV Chassis 14Z37

**ELECTRONIC**  
TECHNICIAN / DEALER **TEKFAK**

SYMBOL	DESCRIPTION	ZENITH PART NO.
C53A	—200µf elect cap 25v	22-3863
C53B	—80µf elect cap 200v	22-3863
C53C	—80µf elect cap 400v	22-3863
R7	—15K conr cont	63-6491
R8	—250K bright cont	63-5380
R9	—3M focus cont	63-6467
R10	—680K ±20%	63-6188
R11	—1M audio range cont 1w	63-4833
R12	—750Ω buzz cont	63-3284

R13	—33K ±10% 2w	63-5186
R14	—1M vol cont	63-7186
R15	—1200Ω ±10%	63-5441
R16	—volt dependent resistor	63-5327
R17	—10K agc cont	63-6432
R18	—470K ab only ±10%	63-4084
R19	—10M vert size cont	63-7110
R20	—750K vert hold cont	63-7185
R22	—VDR	63-7447
R23	—600Ω vert lin cont	63-5312
R26	—3K width control	63-5031
L7	—sound take-off coil wind assy	5-74446

L10	—quad coil wind assy	5-74682
L11	—filter choke	95-2189
L12	—horiz osc coil assy	5-56879
T4	—3rd IF xformer assy	5-57624
T6	—quad coil assy wiring	5-75409
T7	—audio output xformer	95-2659
T8	—vert output xformer	95-2523
T9	—yoke	95-2391
T10	—power xformer	95-2200
T11	—horiz sweep xformer	5-80212
A1	—integrator	87-4
S2	—circuit breaker	85-972



**NOTES:**

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR CAPACITANCE TOLERANCE SEE LEGEND.

↑ INDICATES 20% MAY BE USED.

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS — INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.

CX—CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V., ±10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

C = DETECTOR OUTPUT  
D = VIDEO OUTPUT  
E = I.F. AGC  
F = GROUNDED FOR I.F. ALIGNMENT

G = 3RD I.F. GRID  
H = SOUND LIMITER PLATE  
J = SOUND OUTPUT  
P = SOUND OSC GRID







